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THE ECLECTIC
JOURNAL OF MEDICINE.

EDITED BY

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QUA LUCEM ARTE.

VOL. IV.

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NINTH MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.*

Saturday, *August* 24.

Many circumstances combined to throw a gloom over the opening of the Birmingham session of the British Association. The recent disturbances had rendered it doubtful whether the meeting might not be adjourned to another time and place; foreigners were alarmed by the exaggerated accounts of the riots; and the members of the Local Committee, having their attention engaged by the exciting events around them, could not bestow much of their time on preparations for the reception of the Association. Indeed, under circumstances, it was surprising that their arrangements were so perfect as we found them. Many members, however, were disappointed at the very limited number of manufactories opened to general inspection; and it was thought to be most strange, and was a subject of general remark, that no one of the great engineering establishments, for which Birmingham is so renowned, were found in the list. The Local Committee, however, and all who aided them, deserve great credit for their exertions in collecting together the 'Illustrations of Manufactures, Inventions, and Models, &c.,' exhibited at the Grammar School, and which did infinite credit to the town, and should, we submit, serve as the basis of a permanent collection of a similar character. All the specimens were interesting or instructive, and many beautiful as works of art.

GENERAL COMMITTEE.

The Committee met in the Library of King Edward's School at one o'clock, and adjourned to three, in order to give time for the arrival of members expected by the afternoon trains; for, strange as it may appear, the very facilities of travelling afforded by the rail-roads tended to reduce the numbers present at this early period. On other occasions, the obvious limits to the means of conveyance induced many persons to start early, and thus avoid the crowd; but as no such precaution was now necessary, their journey was deferred to the latest possible moment. At three o'clock the Chair was taken by the Rev. Vernon Harcourt, the President of the Association; and Mr. Yates read a report of the proceedings of the Council during the past year. It principally related to the preliminary arrangements made with the Local Committee at Birmingham. The finances of the Association were stated to be as follows:

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* London Atheneum.

Eclectic Journal of Medicine.

Receipts.

Balance in hand	£670	0	7
Compositions from Life Members	641	0	0
Subscriptions for 1838	1944	0	0
Do. 1839	37	0	0
Arrears	37	1	0
Sale of Reports	412	9	6
Dividend on Stock	165	0	0
	£3906	11	1

Disbursements.

Expenses at Newcastle					£500	0	0
Paid to Local Treasurers					156	18	5
Salaries, &c.					250	0	0
Grants to Committees for scientific purposes:							
For Reduction of Stars in Histoire Céleste		£331	18	6			
Do. Lacaille		11	0	0			
Catalogue of Stars	1837 .	6	16	6			
Land and Sea Level	1838 .	52	1	4			
Do.	1837 .	222	0	0			
Tide Discussions at Bristol		35	18	6			
Mechanism of Waves	1837 .	94	2	0			
Do.	1838 .	50	0	0			
Meteorolog. Observations, Plymouth		55	0	0			
Do. do. hourly, Scotland		49	7	8			
Completing Anemometer		8	10	0			
Meteorology and Subterran. Temp. 1837, Thermometer		21	11	0			
Atmospheric Air		16	1	0			
Action of Sea Water on Iron		40	0	0			
Action of Hot Water on Organic Bodies		3	0	0			
Bristol Fossil Ichthyology		110	0	0			
Fossil Reptiles		118	2	9			
Mining Statistics		50	0	0			
Duty of Cornish Steam-engines		50	0	0			
Marine Steam-engines		100	0	0			
Experiments on Vitrification, *old grants*		9	4	7			
Do. on strength of Iron		100	0	0			
Animal Secretions	1837	10	10	0			
Gases on Solar Spectrum, Action of		22	0	0			
Railway Constants	1837, £8 7 2 1838, 20 0 0	28	7	2			
Printing Reports		801	14	0			
do List of Members		77	12	0			
Advertising, &c.		38	14	6			
Sundries		25	7	10			
Balance in hand		460	13	4			
					£3906	11	1

On the motion of the Marquis of Northampton, seconded by R. Hutton, Esq. M. P., Mr. Francis Baily was elected a Trustee of the Association, in the room of Mr. Babbage, resigned.

The following Rules, recommended for adoption by the Council, were unanimously agreed to:

1. That an admission fee of 1*l.* be required from all Members admitted as Annual Subscribers at future Meetings, in addition to their Annual Subscription of 1*l.*; the composition of Life Members to remain at 5*l.*

2. That every Member, new and old alike, have the option of paying 5*l.* as a fixed *Book-subscription*, entitling him to receive a copy of the volumes published after the date of such subscription.

3. That all recommendations of Grants of Money, requests for special Researches, and Reports on scientific subjects, be submitted to the Committee of Recommendations, and not taken into consideration by the General Committee, unless previously recommended by the Committee of Recommendations.

Dr. Yelloly withdrew the requisition for the establishment of an Agricultural Section, on the understanding that the subject would be taken into consideration at the next meeting of the Association; and Mr. Kinsley withdrew a series of resolutions respecting the arrangement of business, and agreed to submit them to the Council.

The following were chosen to form the Committee of Recommendations:—Dr. Buckland, Dr. Daubeny, Prof. Forbes, Prof. Graham, Mr. Gray, Mr. Greenough, Mr. Hallam, Dr. Hodgkin, Mr. Hutton, Prof. Lloyd, Mr. Lyell, Marquis of Northampton, Mr. Porter, Dr. Roget, Mr. Fox Talbot, Prof. Wheatstone, Prof. Whewell, Mr. Willis, Dr. Yelloly.

SECTION E.—MEDICAL SCIENCE.

President—Dr. YELLOLY.

Vice-Presidents—Dr. JOHNSTONE, Dr. ROGET, Dr. MACARTNEY.

Secretaries—Dr. G. O. REES, Mr. F. RYLAND.

Committee—Drs. Blakiston, Booth, G. Bird, Mr. W. S. Cox, Drs. Evans, Foville, B. Fletcher, Hastings, T. Hodkin, Mr. J. Hodgson, Drs. J. Johnstone, Pritchard, Mr. J. Russell, Drs. R. S. Sargent, Vose, Mr. R. Wood, Dr. Wale.

After an introductory address from the President, one of the Secretaries read a paper, communicated by Sir David Dickson, containing, 'Abstracts of a remarkable case of Rupture of the Duodenum, and of some other interesting cases.'

R. H. was admitted into hospital on March 3d, at three o'clock P.M., and died before midnight. The symptoms were, severe pain in the region of the cæcum and ascending colon, hurried, restless manner, pale, haggard, and anxious countenance, short, hurried respiration, pulse weak, quick, and irregular. Depletion, followed by aperients, had been resorted to, without relief; leeching, fomentation, and warm purgatives, were resorted to without any relief, and at half-past eleven he sunk. It was ascertained, that he had been fighting and wrestling three days before, when he was thrown with violence on the breach of a gun. Post mortem examinations discovered the following lesions:—The stomach, bowels, and abdominal cavity were filled with gas, the descending colon was much contracted; a quantity of ingesta had escaped from four perforations in the duodenum, the mucous and muscular coats of this gut were pellucid and attenuated, as having undergone ramollissement and absorption, in consequence of which, the peritoneal coat seemed to have given way, from distension or mechanical violence; the other viscera seemed generally healthy. It is known, that sudden death frequently follows violent feats of tumbling and horsemanship, and, if examination were made, probably similar lesions would be found, or might exist without being detected, from the examination not being sufficiently minute; and thus the cause of death may more frequently occur than is generally supposed.

The next case detailed was one of Ileus, with enormous distension of the cæcum, which occupied the situation of the transverse colon. The usual symptoms of ileus were present—viz., obstinate constipation, stercoraceous vomiting, and singultus. The ileo-cæcal valve was much diseased, being thickened, and as hard as cartilage. The cæcum, which was forced upwards, had a black and phaselated appearance, and was enormously distended. A strong membranous band, the product of previous inflammation, extended across the ileum, and firmly connected it with the meso-colon. Another case was one of *intermittent coma* from diseased brain. This case was remarkable, for the alternations of coma and excitement. The *post mortem* examination showed the arachnoid membrane to be opaque, and to be raised up from the brain by a gelatinous deposit. A considerable bloody effusion was found at the base of the brain, proceeding from the rupture of a true aneurism of the anterior artery of the cerebellum, near its junction with the basilar artery. The coats of the artery exhibited distinct ossific deposit—the cerebellum, on the left side, was wasted and softened in structure, and of the appearance of curdy pus. The aorta was found extensively invaded with ossific degeneration; scales of bone as large as a sixpence being separable from it, and its elasticity much impaired. Other cases of coma were detailed, in which depositions of a cartilaginous and tubercular nature were found in different parts of the brain. In a case of Phthisis, the *foraman ovale* was found open; cyanosis did not exist; and the patient, a pensioner, had completed his due period of servitude, and had risen to the rank of sergeant, without suffering any inconvenience from the free communication between the right and left sides of the heart.

The next case was one of Phlegmonous Erysipelas, occupying the arm and thoracic muscles of left side, and remarkable for its extreme rapidity. Two cases of severe abdominal disease were also detailed. In the last was observed an extensive deposit of semi-cartilaginous firmness, occupying the subserous cellular tissue; the calibre of the descending colon was so contracted, that, when cut across, it appeared as if encircled by a ring of "a dull white, yet glistening fish-like substance," fibriform, and from half an inch to upwards of an inch in thickness.

Mr. Middlemore read a brief notice of the methods that have been used for the removal of capsular cataract, where the opaque capsule remains after absorption of the lens, for the purpose of introducing to the Section an instrument to facilitate the operation of extraction, without interfering with the transparent structure of the eye. The instrument consisted of a needle, accompanied by a small forceps, the former capable of being withdrawn, leaving the latter to be fixed on the opaque membrane, and then withdrawn through the sclerotic, through which the needle had been introduced.

In answer to a question from Prof. Macartney, Mr. Middlemore stated, that he had not yet practically proved the efficiency of the instrument.

Mr. Middlemore detailed a case in which the operation for artificial pupil was performed with success, and presented the patient to the Section for examination. About three years ago much injury was done to the face from an explosion of gunpowder. After recovery of the other parts, the eyes were found to be in the following condition: the right was completely collapsed, the left was staphylomatous, the lens adhering to the staphyloma, but transparent; the lower half of the cornea was opaque, the upper half transparent, but vision destroyed, from the closed iris being opposite to the transparent portion of the cornea. The first effort was to remove the staphyloma, which was done by repeated puncturing of it with a fine needle. When the process of removal was so far completed, as to permit the operation for artificial pupil, the iris was drawn through a small section of the cornea: it bled freely; but on the subsidence of the hæmorrhage and irritation, a sufficient and well-defined opening was found in the iris opposite the transparent portion of the cornea. The external portion of the iris was allowed to remain strangulated by the incision. The patient has already in a great degree recovered his sight, so as even to distinguish large print. He is still under treatment.

Dr. Foville (of Paris) presented a paper, detailing the results of his researches on the Anatomy of the Brain. He commenced by urging the advantages of examining the structure of the brain by manual separation rather than by section, and gave credit to our countryman Willis, as being the first advocate of this method. He showed that the spinal marrow consists of two lateral portions, united by two commissures, between which, on the median line, there exists a double layer of white matter, analogous to the ventricle of the septum lucidum. He pointed out a remarkable difference of structure in the lateral parts of the spinal marrow, between the roots of the nerves, which is rendered most evident by maceration in water, after previous maceration in spirit. He next described the medulla oblongata. Tracing the crura cerebri to the brain, he showed them to consist of two parts,—the one going to the thalamus opticus, the other to the corpus striatum, where they constitute the white matter,—passing through the middle of those bodies, at the upper and outer limits of which they divide into three layers,—the superior, passing upwards and inwards, meets its fellows on the median line, and forms the corpus callosum; the second, or middle, is expanded in the hemispheres, which it constitutes, by lining the cineritious matter of the convolutions; the third, or inferior, and by far the smallest layer, passes to the outer side of the thalamus and corpus striatum, meets its fellow inferiorly, and ascending with it, forms the septum lucidum. In addition to these facts, he stated his more recent discovery, of several nearly circular systems of white fibres connecting the expansions of the superior part of the crus cerebri, which, from their connexion with the olfactory and optic nerves, and also with the posterior part of the spinal marrow, appear to be essentially devoted to sensation. He also stated his fully confirmed observations, that the pathological affections of the thalamus influence the movements of the [arm of the] opposite side of the body, as those of the corpus striatum do those of the lower extremity. He noticed a similar connexion between the lesions of the cornu ammonis and the motions of the tongue. He combated the idea, that the frontal, parietal, and occipital protuberances, are dependent on special development of the corresponding parts of the brain, but are rather to be attributed to the distension of corresponding parts of the ventricles. After the reading of the paper, Dr. Foville demonstrated the leading facts alluded to, on the recent brain.

Prof. Macartney said, that his own researches confirmed those connexions of the fibres of the brain pointed out by Dr. Foville; but a more extensive and minute connexion between the different portions could be traced than those now demonstrated. He also stated, that the roots of the spinal nerves, by a beautiful plexus or net-work prolonged on the spinal column, formed its outer wall, and communicated with those spinal nerves above and below.—Dr. Foville was aware of those more minute communications alluded to; but on the present occasion he did not attempt to give a complete exposition of the nervous system, as being unsuitable, from its great extent.—Dr. Evans stated, that having Dr. Foville's pathological statements, as derived from his anatomical investigations in the 'Dictionnaire de Médecine,' he had minutely examined the cases reported by Lallemand, Rostan, and Andral, and found them to corroborate those views in almost every instance.

Prof. Macartney read a paper 'On the Means of repressing Hæmorrhage from Arteries.' He stated that the barbarities practised by the older surgeons, such as burning and searing, instead of the ligature, proceeded from the adoption of the false theory, that a certain amount of inflammation was necessary to the healing process, and, although modern surgeons are easier satisfied, the theory has been preserved; the continental surgeons, however, insisting on a greater degree of inflammation than the British. Even the ordinary ligature, he observed, has been known to fail, from the injury and consequent inflammation inflicted by it; to obviate this, he was induced to try the effects of metallic ligatures, from observing that such substances frequently remained in the body without exciting any uneasiness. On applying ligatures of leaden wire to the arteries of dogs, he found, after death, that they remained *in situ*, without surrounding inflammation, or were removed by interstitial absorption, the arteries being impervious. The same results were observed when the experiment was made on the jugular veins of rabbits. An improvement was made by Mr. Weiss on the leaden ligature, by substituting soft metal wire, capable of being knotted. He next alluded to the well-known fact of the closure of arteries in lacerated wounds; this he attributed to the rupture of the elastic coat and the elongation of the outer or cellular, so as to present merely a minute orifice, which was closed by coagulated blood, and not by the retraction of the artery, as Mr. Abernethy had supposed. In the treatment of stumps, he thought it a matter of doubt, what arteries must necessarily be tied, when the powers which nature possesses to repress hæmorrhage be considered, and the cut surfaces be treated as an open wound, with cold applications. He related a case communicated to him lately by Mr. Darley, near Bray, in Ireland, in which, after amputation of the hand of a child, the stump was dressed with lint, kept wet with cold water, *and no ligature was applied or required.* This, the Professor deemed to be the first case on record, in which amputation was performed without the application of a ligature; he related another case, of severe wound of the thigh, in which the femoral artery was opened, and after some delay was tied, yet hæmorrhage to a considerable amount recurred; nevertheless, by keeping the wound exposed, and cold (in the form of ice) applied, the bleeding was repressed, and the closure of the wound proceeded to a favourable termination.

Prof. Gibson, of Philadelphia, stated, that twenty-five years ago, Dr. Physick had introduced ligatures of leaden wire, influenced by the same considerations as Dr. Macartney. This he wished to state, not as detracting from the merit or originality of the learned Professor's views, but as corroborating them.—Mr. Hodgson agreed with Dr. Macartney, that inflammation was not necessary to the reparation of injuries, but he did not think that what Dr. Macartney called the modelling process, was the usual means nature adopted for the closing of arteries; but contraction. He thought metallic ligatures might prove injurious, from causing ulceration and sloughing of arteries in their process through the body. He also objected to soluble ligatures, such as catgut, as liable to premature softening. Silk ligatures he thought injurious from their too long detention on the artery. Hemp, as in common twine, he deemed the best. He agreed with Dr. Macartney that the exposure of an artery promoted its contraction, but thought it might prove a dangerous experiment: experiments on healthy animals might lead to inferences not to be applied without danger, to seemingly analogous cases of invalid patients.—Prof. Macartney explained, that he did not advocate the metallic ligature in all cases.—Mr. Wickenden detailed a case strongly supporting Dr. Macartney's opinion, as he thought. It was one in which amputation was performed on a patient, whose arteries were extensively ossified: attempts to fix ligatures repeatedly failed, yet by attending to the elevation of the stump, and the application of cold, serious hæmorrhage was prevented.

Dr. Blakiston read a paper 'On the Sounds produced in respiration, and on the Voice.' He commenced by showing that the respiratory sound, coarse and intense when heard in the trachea, became weaker and softer as it approached the periphery of the chest, at which point the sound, during expiration, had almost totally disappeared. The air, in passing along the trachea and bronchial tubes, would meet with solid obstacles, and therefore be thrown into sonorous vibrations at every alteration of direction. The divergence of sound caused by the great sub-divisions of those tubes, and the constant diminution in their calibre, would necessarily tend to soften and weaken the respiratory sounds from the trachea towards the air vesicles. But the sounds produced by inspiration were carried up to the ear, placed on the chest, by the current of air during that act; while that produced by expiration, was carried quite in a contrary direction: hence the difference in intensity. It was next shown, that bronchial respiration, occasioned by solidification of a portion of the lung, did not take place in the tubes leading solely to that portion, as had been supposed by Andral and Laennec, but that it took place in tubes leading to healthy expansible vesicles; and the ear being brought into contact with these tubes, perceived the coarse sound of the air passing and repassing in them. It was contended that no sensible part of the sound of vesicular respiration was produced in or around the vesicles, or by the rubbing of the pleura, otherwise it would be heard in expiration; nor in the mouth or fauces, otherwise stertorous breathing would increase its intensity, which it never does. The voice being an instrument of the membranous reed kind, Dr. Blakiston detailed a number of experiments which he had made with different kinds of pipes on the wind-chest of an organ, which led him to conclude that the quality of tone of wind instruments became uniformly more coarse and buzzing in proportion to the strength of the blast, and the thickness and elasticity of their sides; in other words, in proportion as the instrument itself entered into strong vibration. Some instances of the manner in which interference and jarring was produced between those solid vibrations of the instrument and those of the air contained in it, were then given. It was shown that both kinds of vibration were concerned in the formation of the voice; hence, when heard over the larynx, it was found to be coarse and intense; in proportion, however, as these vibrations travelled downwards towards the air vesicles, they were deadened, the aërial waves by the opposing current of expiration, and the solid ones by the increasing mass of the non-homogeneous mass of the lungs; and at their periphery, no resonance of the voice could be detected. When, however, a portion of the lung became solidified, the current of expiration leading from it was stopped, and the spongy lung was transformed into a more homogeneous, and, therefore, a better conducting substance; hence the voice resounded strongly, and its quality became sometimes so coarse as to produce a tingling sensation in the ear.

TEA—ITS EFFECTS MEDICINAL AND MORAL.

BY G. G. SIGMOND, M.D., F.S.A., F.L.S., ETC.

The origin of the work was an address delivered by Dr. Sigmond at the opening of the last session of the Royal Medico-Botanical Society, to which he is Professor of Materia Medica. The reception it met with induced him to enlarge and publish it; and as he is enthusiastic in his admiration of the herb, it could not (says the Literary Gazette) have been infused in a warmer manner:—

"Nicolaus Tulpius was about the first medical man who wrote professionally upon tea, but they were not original observations; they were the opinions of the most eminent men he had collected to give to the world. But in 1678 appeared the first edition of a book which speedily ran through three large impressions, and had a considerable influence upon the introduction of tea: it was entitled 'Cornelio Bontekoe, Tractaat van het excellenste Kruyd Thee.' Although this work was, from the extravagance of its commendations on tea, severely handled by some of the critics, it was translated into many languages, and quoted as the highest authority. He pronounced tea to be the infallible cause of health, and that if mankind could be induced to drink a sufficient quantity of it, the innumerable ills to which man is subject would not only be diminished, but entirely unknown. He thinks that 200 cups daily would not be too much. He is said to have been rewarded for his judgment by the liberality of the Dutch East India Company. Heydentrik Overcamp, who wrote the life of Bontekoe, states that his inducement to write was to recommend himself to his fellow-citizens, and to defend himself against his colleagues, who did not follow his theory or his practice. Etmüller recommended tea as a fine stomachic, cephalic, and antinephritic. Pechlin wrote a dialogue on tea, which he entitled 'Theophilus Bibaculus;' and several poets indulged themselves in its praise. Petit wrote a poem; Peter Francius, two anacreontics; Heinrich, a Doric melydrion; and our poet-laureate, Tate, joined the melodious bards. Whilst it met with so much approbation, there were likewise those who were not equally satisfied with its merits. Boerhaave, Van Swieten, and others, attempted to stem the tide that was setting in its favour, but they have proved themselves incapable of resisting the general impression; for no beverage that has ever yet been introduced sits so agreeably on the stomach, so refreshes the system, soothes nervous irritation after fatigue, or forms a more grateful repast. It contributes to the sobriety of a nation; it imparts all the charms to society which spring from the enjoyment of conversation, without that excitement which follows upon a fermented drink. Raynal has observed, that it has contributed more to the sobriety of the Chinese than the severest laws, the most eloquent harangues of Christian orators, or the best treatises of morality. The people on the continent are reverting to the habit of tea-drinking, which they had abandoned during the long war, when they were shut out from the possibility of obtaining it, and therefore sought a substitute in coffee. In Holland, in Germany, and in Russia, tea is much prized; whilst even in France, where for so many years coffee was considered the only good beverage, and was used either strong or mixed with milk, according to the meal that was taken, our favourite shrub is beginning to be as much in use as long-established custom has rendered it in England."

FAST TEA-DRINKING IN ENGLAND.

"The introduction of tea-drinking into England has been ascribed to Lord Arlington and Lord Orrery; and the year 1666, the *annus mirabilis* of Dryden, has been ascribed as the exact date: but in the diary of Mr. Pepys, secretary to the Admiralty, the following is registered,—'I sent for a cup of tea, a Chinese drink, of which I had never drank before.' In the diary of Henry, earl of Clarendon, there is a memorandum,—'Pere Couplet supped with me, and after supper we had tea, which he said was really as good as any he drank in China.' The first historical record, however, is an act of Parliament, passed in the year 1660, 12 Carl. II. c. 23, which enacts, that a duty should be laid of eight-pence per gallon on all tea made and sold in coffee-houses; which were visited twice daily by officers, whose duty it was to ascertain what quantity had been made. In 1668, the Court of Directors, in the despatch to their factory at Bantam in Java, ordered them 'to send home by their ships one hundred pounds' weight of the best *tey* they could get: and the following year appears the first invoice of tea received by the East India Company, amounting to two canisters of 143½lbs. The Directors had previously presented to her majesty the Queen, who, as Princess Catherine of Portugal, had been in the habit of taking this beverage, twenty-two pounds of tea. It is to this present on her birthday that Waller has alluded in the beautiful lines that may be so often quoted, both for their merit and for the historical facts recorded by them. There is a curious bill preserved in the British Museum in a volume of pamphlets, collected by George III. and presented by George IV., which is well worthy of being reprinted, as the first account of the early use and the estimation in which tea was held. It unfortunately has no date; but from the price it may be fairly inferred that it was printed about 1660. There is every reason to believe that Garway has been gradually changed into Garraway, and that he must have been the predecessor of the present holder of that well-known coffee-house:

"An exact Description of the Growth, Quality, and Virtues of the Leaf Tea, by Thomas Garway, in Exchange Alley, near the Royal Exchange, in London, Tobacconist, and Seller and Retailer of Tea and Coffee: Tea is generally brought from China, and groweth there upon little shrubs and bushes, the branches whereof are well garnished with white flowers, that are yellow within, of the bigness and fashion of sweet-briar, but in smell unlike, bearing thin green leaves, about the bigness of scordium, myrtle, or sumack; and is judged to be a kind of sumack. This plant hath been reported to grow wild only, but doth not; for they plant it in their gardens, about four foot distance, and it groweth about four foot high; and of the seeds they maintain and increase their stock. Of all places in China this plant groweth in greatest plenty in the province of Xemsi, latitude 36°, bordering upon the west of the province of Namking, near the city of Lucheu, the Island de Ladrones, and Japan, and is called 'Cha.' Of this famous leaf there are divers sorts (though all one shape), some much better than others, the upper leaves excelling the other in fineness, a property almost in all plants; which leaves they gather every day, and drying them in the shade, or in iron pans, over a gentle fire, till the humidity be exhausted, then put close up in leaden pots, preserve them for their drink tea, which is used at meals, and upon all visits and entertainments in private families, and in the palaces of grandees: and it is averred by a padre of Macao, native of Japan, that the best tea ought to be gathered but by virgins, who are destined for this work, and such 'quæ non dum menstrua patiuntur: gemmæ quæ nascuntur in summitate arbuscula servantur imperatori, ac præcipuis ejus dynastis: quæ autem infra nascuntur ad latera, populo conceduntur.' The said leaf is of such known virtues, that those very nations, so famous for antiquity, knowledge, and wisdom, do frequently sell it among themselves for twice its weight in silver; and the high estimation of the drink made therewith hath occasioned an inquiry into the nature thereof amongst the most intelligent persons of all nations that have travelled in those parts, who, after exact tryal and experience by all ways imaginable, have commended it to the use of their several countries, and for its virtues and operations, particularly as followeth; viz.—The quality is moderately hot, proper for winter and summer. The drink is declared to be most wholesome, preserving in perfect health until extreme old age. The particular virtues are these:—It maketh the body active and lusty. It helpeth the headache, giddiness and heaviness thereof. It removeth the obstructions of the spleen. It is very good against the stone and gravel, cleaning the kidneys and ureters, being drank with virgin's honey, instead of sugar. It taketh away the difficulty of breathing, opening obstructions. It is good against tipitude, distillations, and cleareth the sight. It removeth lassitude, and cleanseth and purifieth acrid humours, and a hot liver. It is good against crudities, strengthening the weakness of the ventricle, or stomach, causing good appetite and digestion, and particularly for men of corpulent body, and such as are great eaters of flesh. It vanquisheth heavy dreams, easeth the frame, and strengtheneth the memory. It overcometh superfluous sleep, and prevents sleepiness in general, a draught of the infusion being taken; so that, without trouble, whole nights may be spent in study without hurt to the body, in that it moderately healeth and bindeth the mouth of the stomach. It prevents and cures agues, surfeits, and fevers, by infusing a fit quantity of the leaf, thereby provoking a most gentle vomit and breathing of the pores, and hath been given with wonderful success. It (being prepared and drank with milk and water) strengtheneth the inward parts, and prevents consumption; and powerfully assuageth the pains of the bowels, or griping of the guts, and looseness. It is good for colds, dropsys, and scurvys, if properly infused, purging the body by sweat and urine, and expelleth infection. It driveth away all pains of the cholic proceeding from wind, and purgeth safely the gall. And that the virtues and excellencies of this leaf and drink are many and great, is evident and manifest by the high esteem and use of it (especially of late years) among the physicians and knowing men of France, Italy, Holland, and other parts of Christendom; and in England it hath been sold in the leaf for six pounds, and sometimes for ten pounds, the pound weight; and in respect of its former scarceness and dearness, it hath been only used as a regalia in high treatments and entertainments, and presents made thereof to princes and grandees, till the year

1657. The said Thomas Garway did purchase a quantity thereof, and first publicly sold the said tea in leaf and drink, made according to the directions of the most knowing merchants and travellers in those Eastern countries; and upon knowledge and experience of the said Garway's continued care and industry in obtaining the best tea, and making drink thereof, very many noblemen, physicians, and merchants, and gentlemen of quality, have ever since sent to him for the said leaf, and daily resort to his house in Exchange-alley aforesaid, to drink the drink thereof. And that ignorance nor envy may have no ground or power to report, or suggest that which is here asserted, of the virtues and excellencies of this precious leaf and drink, hath more of design than truth, for the justification of himself and the satisfaction of others he hath here enumerated several authors, who in their learned works have expressly written and asserted the same, and much more, in honour of this noble leaf and drink, viz. Bontius, Riccius, Jarricus, Almeyda, Horstius, Alvarez Semeda, Martinivus in his 'China Atlas,' and Alexander de Rhodes in his 'Voyage and Missions,' in a large discourse of the ordering of this leaf, and the many virtues of the drink, printed at Paris, 1653, part x., chap. 13. And to the end that all persons of eminency and quality, gentlemen and others, who have occasion for tea in leaf, may be supplied, these are to give notice, that the said Thomas hath tea to sell from sixteen to fifty shillings in the pound. And whereas several persons using coffee have been accustomed to buy the powder thereof by the pound, or in lesser or greater quantities, which if kept two days loseth much of its first goodness; and forasmuch as the berries, after drying, may be kept, if need require, some months; therefore all persons living remote from London, and have occasion for the said powder, are advised to buy the said coffee-berries ready dryed, which being in a mortar beaten, or in a mill ground to powder, as they use it, will so often be brisk, fresh, and fragrant, and in its full vigour and strength, as if new prepared, to the great satisfaction of the drinkers thereof, as hath been experienced by many in this city, which commodity, of the best sort, the said Thomas Garway hath always ready dryed, to be sold at reasonable rates. All such as will have coffee in powder, or the berries undryed, or chocolate, may, by the said Thomas Garway, be supplied to their content; with such further instructions and perfect directions how to use tea, coffee, and chocolate, as is or may be needful, and so as to be effecatious and operative according to their several virtues.' There is no date to this handbill; but as Hanway ascertained that the price was 60*s*. per lb. in 1660, this bill must have been distributed about that period."

GATHERING AND PREPARATION OF THE TEA LEAF.

"The tea-plant is evidently indigenous in many of the provinces of China, and in various situations serves in the fields as a hedge-shrub; but there are particular localities in which neither labour, skill, nor ingenuity, are spared to bring it to the state of the highest perfection of which it is capable. It exists, indeed, in different parts of the Eastern hemisphere, but it is only in China that it has been extensively cultivated; for, although the Javanese assert that they have within the limits of their empire a shrub which is far superior to that which is found in China, we have no evidence of the fact, nor has any exportation been made of that of which they have so loudly boasted. The plant evidently flourishes over the greater portion of the Chinese empire; and there must be varieties produced by cultivation, which are not known in Europe, but which are said to be in high estimation amongst those people who can afford to purchase them. That which is best known to the European, and which, indeed, seems grown and prepared for the supply of our markets, is the produce of the central and the maritime provinces of China, forming the richest and finest portions of the empire. From these, too, the most valued productions, and the more highly esteemed manufactures of various articles of dress and of luxury, are obtained. The demand for exportation has necessarily increased its cultivation; and it is now successfully reared in many situations where it was formerly unknown or entirely neglected. The provinces of Fokien, of Keang-nan, of Chek-eang, of Kiang-si, and Kung-soo, yield the largest proportion; and the English resident is led to believe that from them the best supply is obtained; but the provinces immediately around Pekin afford that which is preferred by the luxurious citizen; and from those which border upon the Tartarian region, the Russian and the Muscovite draw their supplies, which are of a kind and of a character which are much to be prized by the amateur of tea. It is in Fokien, or in 'the happy establishment,' that a very large proportion of that tea which is the ordinary beverage of the tea-drinkers of this country is grown. The shrub here acquires great luxuriance; is diligently watched over; its farmyards, its drying establishments, are on a scale of great magnitude; and it furnishes us with a sound black tea, of sufficient aroma, strength, and taste, to gratify the palate. * *

"When the shrub has grown about three years, the leaves are ready for picking. This is done with the greatest care: they are not plucked by handsful, but each leaf separately. They are thus, although the process be somewhat tedious, enabled to collect, in the course of the day, fifteen pounds. The following account has been given of a tea-farm which supplies the imperial family with imperial or bloom tea:—'The plantation is inclosed with hedges, and likewise surrounded with a broad ditch for further security. The trees are planted to form regular rows, with intervening walks. Persons are appointed to superintend the place, and preserve the leaves from injury or dirt. The labourers who are to gather them, for some weeks before they begin, abstain from every kind of gross food, or whatever might endanger communicating any ill flavour: they pluck them, also, with no less delicacy, having on thin gloves.' During the tea harvest, it would seem, great attention is paid to the diet of the husbandman. In the common tea-plant, the commencement of the leaf-gathering takes place in the early spring; and three different crops are obtained during the summer. Scarcely, in the first instance, has the leaf attained its growth, and whilst it is yet budding into life, than the picking commences; and the tea will be fine in proportion to the tender age of the leaf: the most agreeable aroma and the most delicious flavour are then obtained from it. A soft white down covers the first leaflets, which is called, in the Chinese language, paho, and hence our name pekoe, the most exquisitely flavoured of those teas with which we are acquainted. Trees, until they reach the sixth year, furnish this tea. A few days' longer growth supplies us with the black leaf pekoe. In the month of May, the leaves that have grown since the first gathering, having arrived at maturity, are stripped from the trees: these form the souchong—the seaou-choung,—'the small or scarce sort.' About six weeks after this, there is a third gathering of the new crop thrown out; and from the Chinese word, koong-fou, signifying labour or assiduity, springs our term congon. From this a particular part is selected, called kien-poey,—a selection which is known to us under the name of campoy. The tea familiar to us under the appellation of bohea should be the produce of the district from which it derives its name: it is a rough preparation of the later-grown leaves, which yield a beverage of little strength and of inferior flavour. Green teas undergo the same kind of harvest. From the tender leaflets is produced hyson; and a very expensive kind, loontsing, is more particularly prized:

it was called yutsein, 'before the rains;' whilst hyson is a corruption from 'flowery spring.' The gunpowder is a hyson gathered with great attention, and rolled with much nicety and care; indeed, it would appear to be a selection of the more delicate leaves. The coarser and yellower leaves remaining after this selection are called hyson skin. The twankay is the last gathered crop, and consists of an older leaf, in which less attention is paid to the manipulations. The judgment shown in collecting the leaves at the various seasons evinces a great knowledge of vegetable organization, and of the succession of phenomena which are developed during the progress of life. It is in the early spring that the sap or vegetable blood has little to convey to the leaf but the mucilaginous principle, and that aroma, peculiar to each vegetable, of whose existence we are by its effects rendered sensible, but of which our means of examination are so limited. On the first bursting into existence, leaves and flowers are endued with an evanescent odour, which art has attempted to fix, and to diffuse through other bodies. Upon this much of the flavour of the plant depends; and if we would wish to obtain all that strikingly characterizes the vegetable, we must gather it as soon as this principle is at all developed. At a later period of the year, not only has the aromatic principle been exhaled, but the mucilaginous properties are exchanged. A great proportion of the earthy phosphates exist in all plants in the month of May, but they are much diminished as the year advances. * * *

"Many experienced persons believe that the green tea is altogether artificially prepared; whilst others consider that the black is the same leaf, but that it undergoes the process which gives it colour, and renders it much milder in its effects. The Chinese themselves rarely drink green tea, and then only the produce of particular farms, which have obtained a high character. The leaves of all of them are much more liable to be changed by the action of the atmospheric air, and very speedily lose that beautiful bloom which, amongst many tea-drinkers, is highly valued. The heavier these teas weigh, the better are they imagined to be; and they are much oftener scented by some other leaf; and great is the attention of the factor given to attract his customer by the fragrance and by the appearance. He often gives an additional dryness to the leaf after damp weather; and generally, immediately before he brings it into the market for sale, he again drys it, to give the crispness which should belong to it. It often happens that those teas which strike the eye at Canton, are found, on their arrival in America, where they are very much esteemed and generally preferred to the black, not to satisfy the consumer, from the changes that have occurred during the voyage. These teas are often dried over the fumes of burning indigo; and a very small quantity, mixed with powdered gypsum, is delicately sprinkled over them, which adds to the colour. Different modes of flavouring the tea are likewise practised: the blossom buds of fragrant flowers are thrown amongst the finest teas. In the loontsing pekoe these are very discernible. After torrefaction has taken place in the iron pans destined for that purpose, the dried leaves are delicately touched with a camel-hair pencil, which has been dipped in spirituous solutions of resinous and aromatic gums; and for this purpose a number of children are employed. The Chinese distinguish two kinds, more particularly the poui, or bou tcha, and the soumlo, which are reserved for the invalid. They likewise make it into cakes; and of this sort there is a particular kind, called mandarin tea, which is an extract from the leaves. This is rarely imported into England. Sir Anthony

Carlisle presented, however, a very fine specimen of it to the Royal Medico-Botanical Society; it was in the form of a dry, solid, blackish mass, easily broken and reduced to powder. There are other varieties which occasionally find their way into this country as presents. Ning-young, pouchong, orange pekoe, hung muey, have become within a few years familiar to us; and there is little doubt other names will soon be made known to us, and their characters will be investigated and compared. Amongst those that are brought to the Canton markets are, quongsow, heeh ke, kee cheem, sing kee, quang tay, quang fat, quang tack, ka kee, cheem chunn, wa chunn, yock chunn, and euphonous names, which may hereafter be as well known to us as any of those which, from their long reputation, have become standard teas. There is a tea known throughout the north of Europe under the name of caravan tea, and in some places under that of kaisar-tae, or the emperor's tea, imported into Russia by way of Kiachta. It is seldom found in this country; the leaf is remarkably large, not much dried, and of a deep black colour, mixed with footstalks of the plant, and occasionally slender twigs of the smallest dimensions. These teas are in all respects superior in point of taste and flavour to those consumed in England, France, and Holland. They are not the produce of the provinces which furnish these markets, but of the centre of China. They are conveyed by land, to which much of their superiority is to be attributed, as the sea voyage deteriorates all teas, and causes them to lose their strength, freshness, and flavour. As Mr. Crawford has observed, the difference between the teas coming sea-wise, and those brought by land through Kiachta is so remarkable, that it is no exaggeration to say, that a pound of the last goes as far as two pounds of the first. * *

"There was an idea once prevalent, that the colour of the green tea was to be ascribed to the drying the leaves on copper; but nothing can be more unfounded than such an opinion, as the pans, one of which was sent home by an officer of the East India Company, are of cast-iron. That copper may be detected in tea is true; but Bucholz has shown that it exists in several vegetables; indeed, there are proofs that it enters into the composition of a great proportion of animal and vegetable matter. It is found in coffee in very striking quantities; from ten ounces of unroasted coffee there may be obtained, by the proper manipulations, a dense precipitate, which will coat two inches of harpsicord wire with metallic copper. And he who eats a sandwich has much more to fear from the poisonous effects of this metal, than the drinker of green tea; for the two slices of bread, the beef, and the mustard, all have been proved, by the examination of the chemist, to be capable of forming in the stomach a metallic crust; indeed, the only safe food would be potatoes, for in three pounds no copper could be traced."

CONVERSION OF BLACK INTO GREEN TEA.

"That damaged black leaves can be manufactured into green, an anecdote related by Mr. Davis fully proves. The remission of the tea duties in the United States occasioned, in the years 1832 and 1833, a demand for green teas at Canton, which could not be supplied by the arrivals from the provinces. The Americans, however, were obliged to sail with cargoes of green teas within the favourable season; they were determined to have these teas, and the Chinese were determined they should be supplied. Certain rumours being afloat concerning the manufacture of green tea from old black leaves, Mr. Davis became curious to ascertain the fact, and with some difficulty persuaded a Hong merchant to conduct him, accompanied by one of the inspectors, to the place where the operation was carried on. Upon reaching the opposite side of the river, and entering one of the laboratories of factitious hyson, the parties were witnesses to a strange scene. In the first place, large quantities of black tea, which had been damaged in consequence of the floods of the previous autumn, were drying in baskets with sieve bottoms, placed over pans of charcoal. The dried leaves were then transferred in portions of a few pounds each to a great number of cast-iron pans, imbedded in chunam or mortar, over furnaces. At each pan stood a workman, stirring the tea rapidly round with his hand, having previously added a small quantity of turmeric, in powder, which, of course, gave the leaves a yellowish or orange tinge; but they were still to be made green. For this purpose some lumps of a fine blue were produced, together with a white substance, in powder, which, from the names given to them by the workmen, as well as their appearance, were known at once to be Prussian blue and gypsum. These were triturated finely together with a small pestle, in such proportion as reduced the dark colours of the blue to a light shade; and a quantity, equal to a small tea-spoonful, of the powder being added to the yellowish leaves, these were stirred, as before, over the fire, until the tea had taken the fine bloom colour of hyson, with much the same scent. To prevent all possibility of error regarding the substances employed, samples of them, together with the specimens of the leaves in each stage of the process, were carried away from the place. The tea was then handed in small quantities, on broad shallow baskets, to a number of women and children, who carefully picked out the stalks and coarse or uncurled leaves; and when this had been done, it was passed in succession through sieves of different degrees of fineness. The first sifting was sold as hyson skin, and the last bore the name of young hyson. The Chinese seemed quite conscious of the real character of the occupation in which they were engaged; for, on attempting to enter several other places where the same process was going on, the doors were speedily closed upon the party."

A CLINICAL REPORT OF

TWENTY-THREE CASES OF UTERINE HÆMORRHAGE, FROM ATTACHMENT OF THE PLACENTA TO THE NECK OF THE UTERUS.

BY ROBERT LEE, M.D., F.R.S.

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Guillemeau was the first who stated that the placenta may present, or come before the child, that a dangerous flooding then takes place, and that the most safe and expedient means of arresting it is to deliver immediately, by passing up the hand into the uterus and turning the child.

Mauriceau likewise knew that the placenta sometimes presented, or came before the child; and in all cases of hæmorrhage from this cause he recommended immediate delivery, as Guillemeau had done. Mauriceau has related seventeen cases of uterine hæmorrhage in the latter months of pregnancy, from presentation of the placenta; and in sixteen of these delivery was accomplished artificially, by

* Medical Gazette.

passing the hand through the opening formed by the separation of the placenta from the uterus, rupturing the membranes, and turning the child. Two women died after this operation, and one, who would not consent to artificial delivery, died undelivered.

Paul Portal's treatise contains the histories of several cases of uterine hæmorrhage, depending upon attachment of the placenta to the inferior portion of the uterus; and he was fully aware, as early as 1671, that the placenta had not sunk down to the lower part of the uterus, but had been adherent to the internal orifice from the commencement of pregnancy. He employed the same treatment in all these cases that had previously been recommended by Guillemeau and Mauriceau.

Petit, Giffard, Rœderer, Levret, Smellie, Douglas, and William Hunter, related many cases of flooding, in the latter months of pregnancy, from this cause, and recommended the operation of turning as soon as the orifice of the uterus was sufficiently dilated to allow the hand to be introduced without the employment of much force. All the best writers on midwifery during the last hundred years have recommended artificial delivery where the placenta presents, and hæmorrhage takes place in the latter months of pregnancy. Every practitioner knows that the operation of turning should be performed in such cases, when the flooding becomes profuse, and the orifice of the uterus is dilatable. But in some cases the orifice remains so rigid, as to render the introduction of the hand into the uterus impracticable, while a discharge of blood is taking place sufficiently great to endanger or destroy life. There are no cases more embarrassing to the accoucheur than these, and none in the practice of midwifery attended with greater hazard. That they are not uncommon, and that we possess no means of effectually controlling the hæmorrhage till the operation of turning can be safely performed, the following histories sufficiently prove :*—

Case I.—Anne Cromer, æt. 42, St. James's Parochial Infirmary, 22d July, 1828. I was requested by the late Mr. Baker to see this patient, who was far advanced in pregnancy, and had been attacked with profuse uterine hæmorrhage a week or ten days before. The placenta was adherent to the neck of the uterus; but the orifice being rigid, the plug was employed for several days to check the hæmorrhage, till the operation of turning could be performed. A large quantity of blood was lost notwithstanding, both before and after delivery, and the exhaustion was so alarming, that it appeared very probable she would not recover from the immediate effects of the loss of blood. She, however, survived for eighteen days, and death then took place from inflammation of the left spermatic vein, and gangrene of the lungs on the left side.

Case II.—(1828.) A patient of the British Lying-in Hospital, near the full period of pregnancy, was suddenly attacked with a profuse discharge of blood from the uterus. She had been exposed to no accident, and had not experienced any uneasy sensation about the uterus before the blood began to flow. She was conveyed from her residence to the hospital immediately after the occurrence, but she was dead before any of the medical officers of the institution could see her. I examined the body, and found the centre of the placenta over the centre of the internal orifice of the neck of the uterus. On the left side the connection between the placenta and uterus was broken to a considerable extent.

Case III.—24th October, 1829. A woman in the seventh-and-half month of pregnancy, residing at 2, Parker Street, had a great discharge of blood from the uterus for thirty-six hours before I saw her. A large portion of the placenta was hanging through the os uteri into the upper part of the vagina. I proposed immediately to deliver. by turning the child ; but she obstinately refused to submit to the operation, and I was apprehensive that she would die undelivered. The hæmorrhage continued with great violence for several hours, when the placenta and a dead fœtus were expelled without assistance. She remained long in a state of great exhaustion, but ultimately recovered.

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* Eight cases proved fatal out of nineteen related by Dr. Ramsbotham; one out of four, by Dr. Joseph Clark; and two out of eleven recorded by Dr. Collins.

Case IV.—On the 8th February, 1830, I was called to a woman residing in Falconberg Court, who had been attacked with profuse uterine hæmorrhage at the end of the seventh month of pregnancy. The placenta was protruding through the orifice of the vagina. I immediately extracted it, and a dead child followed. A great hæmorrhage succeeded, and she remained for a considerable time insensible, without any pulse to be felt at the wrists. She, however, gradually recovered.

Case V.—On the 24th of March, 1835, I was requested by Mr. French, surgeon to the St. James's Parochial Infirmary, to deliver a patient of the institution, who had uterine hæmorrhage, with presentation of the placenta. A great quantity of blood had escaped, and she was much exhausted. The os uteri being soft and largely dilated, I immediately proceeded to deliver, by passing the right hand into the uterus, through the opening made by the detachment of the placenta from its cervix, and by rupturing the membranes and turning the child. No difficulty was experienced in extricating the trunk, the head, and superior extremities of the child, and the placenta soon followed. The hæmorrhage immediately ceased, and the recovery was rapid. The child was dead.

Nothing could be more easy than the operation of artificial delivery in this case, and its performance required only a few minutes.

Case VI.—A few days after the preceding case I was consulted by the late Mr. Gosna, about a patient in the eighth month of pregnancy, who had flooding from attachment of the placenta to the lower part of the uterus. A large quantity of blood had been lost, and it was evident from the effect produced by this upon the system, that she would speedily sink if artificial delivery were not at once performed. The orifice of the uterus was widely dilated, and a large mass of the placenta, detached, was distinctly felt through it. The operation of turning was immediately performed, as in the last case, the hand being passed up into the cavity of the uterus, at the part where the separation of the placenta from the cervix had taken place. The placenta was soon after removed, and the hæmorrhage did not return. The child was still-born. The mother recovered rapidly.

Case VII.—On the 26th April, 1835, I was called to a patient of the St. Marylebone Infirmary, who was more than seven months pregnant, and had been attacked fourteen days before with alarming uterine hæmorrhage. The first discharge of blood took place during the night, when she was at rest ; it was not preceded by a sense of uneasiness about the uterus, and could be referred to no accident or injury of any kind.

A considerable oozing of blood still continued when I first saw her. The placenta presented. The orifice of the uterus was opened to the size of a crown-piece, but its margin was so hard and undilatable, that I found it impossible, without employing too great force, to pass the hand into the uterus. After a cautious trial for about half an hour to get the hand insinuated through the orifice, I was compelled to withdraw it altogether, as there was no hope of overcoming the resistance.

On the 27th the flow of blood continued. The strength remaining unimpaired, and the os uteri being not less unyielding, I resolved to wait till relaxation should take place, and moderate the discharge by the recumbent position, and the application of cold externally and internally.

28th.—A large quantity of blood suddenly escaped, which produced syncope. The countenance was afterwards pale, the extremities cold, and the pulse rapid and feeble. The os uteri being soft and dilatable, I immediately passed up the hand, and delivered by turning. The child was born alive. The placenta was removed soon after ; but though no further loss of blood was experienced, she continued gradually to sink, and died in a few days.

Case VIII.—On the 7th October, 1835, I was requested by Mr. Gairdner, of Foley Place, to see a patient residing in Frith Street, who had completed the seventh month of pregnancy, and had been attacked with uterine hæmorrhage three weeks before. A slight discharge of blood had continued during the whole of this period, but it had produced little effect upon the system until a few hours before I saw her, when several pints of blood were suddenly discharged, and her whole strength seemed at once extinguished. The pulse was not perceptible. The extremities were cold, and the respiration feeble. The blood still continued to flow in great quantities, and it was evident death would soon take place if the uterus were not speedily emptied of its contents.

The os uteri was not dilated to the size of a crown, and it was so rigid that I found it absolutely impossible, though I employed a degree of force scarcely justifiable, to pass more than three fingers within it. The whole hand could not be made to pass, though it appeared certain that death would soon take place if delivery was not immediately accomplished. On the fingers being withdrawn for a short time, the flooding continued. I made another effort to turn the child, but the resistance could not be overcome. I then pressed forward the fore and middle fingers of the right hand between the placenta and uterus, so as to reach the membranes, which I succeeded in tearing open. Pressing the fingers still forward, they came in contact with one of the feet, which they grasped and brought down into the vagina. This was pulled lower and lower, till the whole extremity and nates were drawn into the os uteri; but so rigid did it continue to be, that although I exerted all the force I dared employ in dragging it down, half an hour elapsed before the pelvis of the child could be made to clear the orifice of the uterus. At last it was extracted, with the placenta, and the hæmorrhage ceased.

A violent rigor followed, which threatened for a time to destroy the patient. Bottles of hot water were applied to the feet and pit of the stomach, the whole body was covered with hot blankets, and brandy was liberally administered.

She slowly recovered from the effects of the immense loss of blood.

CASE IX.—On the 18th October, 1835, Mrs. Ryan, whose pelvis is greatly distorted by rickets, was attacked suddenly with profuse uterine hæmorrhage, in the eighth month of pregnancy. I had delivered her once by craniotomy, and induced premature labour six times. She refused to submit to the operation on this occasion. On examination, at 4 o'clock the following morning, a large portion of the placenta was felt detached and protruding through the os uteri. The orifice, though little dilated, was in a state to admit of artificial delivery, but so great was the distortion of the pelvis that I found it impossible to introduce the hand within the pelvis to turn the child. The flooding still continued. There were no labour-pains. I could feel the head above the brim of the pelvis, and I determined to endeavour to open and extract it with the crotchet. Mr. Brookes, surgeon to the British Lying-in Hospital, pressed hard over the fundus uteri, while I carried forward the fore and middle fingers of my left hand to the head, which I could scarcely touch. In the groove formed between these fingers, the point of the perforator was conducted to the head, and pressed steadily through the integuments and bone, and then the blades were opened. The undilated state of the orifice rendered this difficult, but it was accomplished without inflicting any injury on the orifice.

The crotchet was then introduced into the opening in the skull, and the head was dragged down, between the placenta and uterus, into the brim of the pelvis, where it stuck fast for a long time. The orifice of the uterus was still imperfectly dilated. After four hours very hard work, we succeeded in getting the base of the skull through the brim into the cavity of the pelvis, and delivered.

The placenta was removed soon after the child, and no hæmorrhage followed. This woman recovered in the most favourable manner, and she has since had premature labour induced twice, at the end of the seventh month of gestation.

CASE X.—At 6½ A.M., 28th October, 1835, I was called, by Mr. Cathrow, of Weymouth Street, to a patient seven months pregnant, who had been attacked with uterine hæmorrhage fourteen days before. It had occurred spontaneously. It returned slightly a week ago, and again went off. This morning it was renewed with increased violence, and was accompanied with labour-pains. Mr. Cathrow examined, and found the placenta protruding through the os uteri. He drew it forward gently, and the whole ovum escaped without rupture of the membranes. The flooding ceased on the application of cold vinegar and water to the external parts, and she was soon quite well.

A similar accident had occurred to her in a former pregnancy.

Case XI.—At 11 a.m., on the 30th October, 1835, I was requested, by Mr. Crellin, Wellington Road, to see Mrs. S——, æt. 40, who was in the ninth month of pregnancy, and for fourteen days had suffered from slight uterine hæmorrhage. On the 29th, and morning of the 30th, it greatly increased, and was accompanied with alarming fits of faintness, succeeding each other rapidly. I found the os uteri dilated to about the size of a crown-piece, and rigid. The placenta, partially detached, was felt at the posterior part of the neck of the uterus. The membranes were distinctly felt at the anterior part, and the head of the fœtus presenting above them. The pulse was neither rapid nor feeble, and the strength did not seem much impaired. I endeavoured, with the nail of the fore-finger, to tear the membranes, and believed I had done so, but was mistaken. The hæmorrhage soon returned, when three doses of the ergot of rye were administered by Mr. Crellin; but, though pains were produced, the hæmorrhage continued, and at 4 p.m. I discovered that the membranes were entire, and that no liquor amnii had escaped. I drew the nail, like a saw, for some time over a portion of them, and at last the liquor amnii began to escape in large quantity, and strong uterine contractions followed. The head of the child was soon pressed down between the anterior portion of the neck of the uterus and the placenta, where the separation had taken place, and the labour was safely completed in an hour. There was no hæmorrhage after the membranes had been perforated. The child was dead.

This patient had not recovered from the effects of the loss of blood for several weeks, and for several months a constant sanguineous discharge from the uterus remained.

In several other cases, similar to the preceding, of partial placental presentation, the membranes were ruptured, and the delivery safely completed without the operation of turning.

Case XII.—On the 10th of November, 1835, I was requested by Dr. N. Grant, to see a woman, residing in Lower James Street, who had been suddenly attacked with profuse uterine hæmorrhage in the eighth month of pregnancy. Six days before, without any accident, when she had gone out to market, a great gush of blood took place from the uterus, which produced faintness. No fresh discharge occurred till this afternoon, when another immense flow of blood took place, and complete prostration of strength followed. When Dr. Grant was called to her, at 3½ p.m. the hæmorrhage continued, and she was almost completely insensible, with cold extremities and a rapid feeble pulse. He found the placenta presenting. At 4 p.m. the flooding continued. The vagina was partially filled with clotted blood. On passing up the hand, I found the placenta adhering all round to the neck of the uterus. There was no point where the organs were completely separated from one another, where the hand could be readily introduced into the cavity of the uterus. The os uteri was considerably dilated. I found, on attempting to pass the hand, that it offered great resistance. This was, however, gradually overcome, and the fingers were slowly insinuated behind, between the uterus and placenta, into the cavity, and the membranes were ruptured, and the child speedily delivered by turning. The placenta came away soon after, and an immense flow of blood immediately followed. This was soon checked by the external application of cold and the introduction of the plug: but the pulse became imperceptible; the face covered with a clammy perspiration; the lips and hands livid; the breathing hurried, with great restlessness, and she died two hours after. Stimulants were wholly ineffectual in this case.

Case XIII.—St. Marylebone Infirmary, 17th November, 1835. A young married woman, the eighth month of her second pregnancy, was brought last night into the lying-in ward, in consequence of an attack of uterine hæmorrhage. She reported it to have been produced by great bodily exertion the preceding day. The hæmorrhage had almost entirely ceased on the 16th.

2 p.m. on the 17th, I examined, and found a portion of the placenta detached within the orifice of the uterus. The os uteri was slightly open, and rigid. Pulse

not feeble; faintness entirely gone. As she was not in a condition to admit of artificial delivery, rest in the recumbent position, cool air, &c., were recommended, until the circumstances should justify interference.

18th.—The hæmorrhage returned, and the edge of the placenta being distinctly felt passing into the membranes, they were ruptured, and the liquor amnii discharged. Labour-pains soon came on, and a dead child was pressed down between the uterus and placenta, where they had been separated. The placenta was extracted soon after, and the hæmorrhage did not return.

This woman died afterwards in the wards of the Infirmary, from deep-seated inflammation of the uterus.

CASE XIV.—I was requested by Dr. Boyd, assistant surgeon to the St. Marylebone Infirmary, to see a patient belonging to the institution, who had been attacked on Christmas-day with uterine hæmorrhage, during a severe fit of coughing. It disappeared without producing faintness, but returned thrice, to a much greater extent, and produced a marked effect upon the constitution. The countenance, when I first saw her, was pale, the hands cold, the pulse rapid and feeble, and a considerable hæmorrhage still continued. There were no labour-pains. The movements of the child had been recently felt. The os uteri was so much dilated that the points of four fingers and the thumb could be readily passed into it. The circumference was not thin, but it was soft and dilatable, and I experienced no difficulty in introducing the hand between the anterior part of the orifice and the detached placenta, a portion of which was hanging into the vagina behind. Before the whole hand entered the cavity of the uterus, or the membranes were ruptured, I had grasped one of the feet. The operation of turning was easily completed, and the child was born alive. The binder had been applied around the abdomen before the operation was begun, and it was tightened several times during the progress of it. I left the placenta for some time in its situation after the extraction of the child, to produce the effect of a plug: it was afterwards removed without difficulty, after the uterus had contracted, and the patient recovered in the most favourable manner.

CASE XV.—March 24, 1836, I was requested, by Mr. Saunier, to see a patient seven months pregnant, who, after suffering for several days from slight uterine hæmorrhage, was suddenly reduced to a state of the most alarming weakness, from a great gush of blood taking place. When I saw her, the blood was flowing copiously. The placenta could be felt adherent at the back part to the cervix uteri; at the fore part I felt the membranes. The orifice was so rigid, that it was impossible to pass the hand into the cavity of the uterus, to turn. I ruptured the membranes, and a great quantity of liquor amnii escaped, after which the flooding entirely ceased.

The ergot of rye was given, but labour-pains did not come on till the afternoon of the 26th, the second day after the membranes had been ruptured, when the child and placenta were expelled without a renewal of the hæmorrhage.

On the 28th she had violent rigors, with headache, delirium, and a rapid feeble pulse. Symptoms of uterine phlebitis manifested themselves in a few days, and she died on the 11th of April, from inflammation of the lungs. For a week before death, she suffered excruciating pains in the right shoulder-joint and arm.

CASE XVI.—May 12, 1836, I was requested, by Mr. Kennedy, to see a patient who had awoke in the morning greatly alarmed by a discharge of blood from the uterus. The quantity lost had not been great, and the strength of the constitution was unimpaired. The orifice of the uterus was high up, and slightly open. I felt the placenta at the cervix. There were no labour-pains. Delivery was considered unadvisable at the time.

15th.—Hæmorrhage has continued, but not profusely, until this morning, when a great quantity of blood suddenly escaped, and she became extremely faint. There were no pains. The os uteri was largely dilated. I introduced the fingers of the left hand through the os uteri, and before the whole hand had passed into the cavity, I was able to lay hold of one of the feet and turn the child. The child was dead. The placenta was extracted soon after, and the flooding ceased. She recovered favourably.

CASE XVII.—On the 3d December, 1836, I was called, by a medical practitioner, to a patient seven months pregnant, who had been attacked on the morning of the previous day, with uterine hæmorrhage. It returned twice in the course of the day, and again ceased, without producing any great effect upon the constitution. The ergot of rye was repeatedly given, without any attempt being made to ascertain whether or not the placenta presented.

At 1 A.M., when I first saw the patient, the extremities were cold, and pulse scarcely to be felt. She was extremely faint. The os uteri was widely dilated, and a large portion of the placenta felt at the posterior part of the cervix. The operation of turning was easily performed, and did not last five minutes. The child was dead. The uterus having contracted, the placenta was removed in half an hour after the child. No hæmorrhage followed.

For three days she appeared to be recovering. Rigors, urgent thirst, pyrexia, pain in the loins and right side of the abdomen took place, and she died about ten days after, with the usual symptoms of inflammation of the veins of the uterus.

CASE XVIII.—On the 20th December, 1836, Mr. Gaskell, of King's Road, Chelsea, requested me to see a patient residing in Lower Eaton Street, who had been attacked with repeated discharges of blood from the uterus, in the eighth month of pregnancy. The placenta was felt through the orifice of the uterus. The flooding had produced great exhaustion, yet the orifice of the uterus was not in a condition to admit of artificial delivery. For some days the hæmorrhage was controlled, but it returned with great violence, and Mr. Gaskell passed up the hand into the uterus, and delivered the child alive. The placenta soon came away, and Mrs. O. appeared for two hours to recover, and then suddenly expired without any further loss of blood.

CASE XIX.—On the 10th March, 1837, I was called, by a surgeon residing near Holborn, to see a patient who had been attacked with profuse uterine hæmorrhage four weeks before, when at the end of the sixth month of pregnancy. It had returned at intervals, but in a slight degree. During the preceding night a large quantity of blood had escaped. Twenty grains of the ergot of rye had been administered about half an hour before I saw the patient, although no examination had been made to ascertain the actual state of the case. Pain followed the ergot, and a great increase of the discharge. I found the orifice of the uterus soft and widely dilated, and a large portion of the placenta hanging through it, detached from the cervix. I passed up the hand readily into the uterus, and laid hold of one of the feet of the child before the membranes were ruptured. The child was extracted alive without difficulty. The placenta was left as a plug till the uterus had contracted. The patient speedily recovered.

CASE XX.—On the 19th July, 1837, Mr. Tucker, of Berners Street, requested me to see a patient in St. Martin's Lane, who had presentation of the placenta, and was reduced to a state of extreme exhaustion by the loss of blood. She was near the full period of pregnancy, and during the preceding seven days had, at short intervals, lost a large quantity of blood. I passed the hand readily through the orifice of the uterus, though it was not dilated more than an inch and a half in diameter, and after rupturing the membranes, grasped the feet of the child, and delivered without difficulty. The placenta was not removed for a considerable period. No hæmorrhage occurred, and the patient recovered after a severe attack of uterine phlebitis.

CASE XXI.—On the 11th June, 1838, Dr. Boyd sent to request me to attend an out-patient of the St. Marylebone Infirmary, who had been attacked, five days before, while in the seventh month of pregnancy, with uterine hæmorrhage. A great quantity of blood had been lost, and the discharge going on rapidly, with frequent fits of syncope, Dr. Boyd proceeded to deliver by turning. I saw her soon after, when the placenta had been removed, and the hæmorrhage had ceased. There was still great faintness, the extremities were cold, and the pulse scarcely perceptible. She recovered from the immediate consequences of the hæmorrhage, but afterwards died with all the symptoms of suppuration of the uterine veins.

CASE XXII.—On the 12th January, 1839, Mr. Jones, of Carlisle Street, Soho Square, called me to see a lady in the eighth-and-half month of pregnancy, who had been attacked with uterine hæmorrhage a month before. It first took place without any accident or pain, and the quantity lost was about half a pint, and it produced little effect upon the constitution. She remained quiet for several days, and then got up, and only felt a little weak. For ten days she went about, but the hæmorrhage returned on the fifteenth day after the first attack, but not to a great extent. Seven days after this a third and more profuse hæmorrhage took place; it gradually went off, but not so quickly as the other attacks.

At one o'clock, 12th January, it was renewed to an alarming extent, without any pain. About a quart of blood was suddenly lost, and she became extremely faint. At 4 A.M. the discharge still continued. When I first saw her, at 7 o'clock, she felt faint; the pulse was rapid and feeble; the upper part of the vagina was filled with a large clot of blood, which adhered to the os uteri. By displacing this at the back part, I could distinctly feel the placenta adhering all round to the neck of the uterus, which was thick and rigid, and very little dilated. The effect produced by the hæmorrhage was so great, that it was evident death would soon take place if the delivery were not speedily completed; and the state of the orifice was such, that it was certain the hand could not be passed but with the greatest difficulty. At 8 o'clock Dr. Merriman saw her with us, and agreed that immediate delivery was necessary. I passed the right hand into the vagina, and insinuated my fingers between the uterus and placenta at the back part, and reached the membranes; but the rigidity of the orifice was such, that though I employed great force for a considerable time, I could not succeed in getting the whole hand into the uterus. Dr. Merriman recommended rupturing the membranes; and I was proceeding to do this with the fingers, when I felt one of the feet of the child, which I grasped and brought down into the vagina enveloped in the membranes, which then gave way. Nearly an hour elapsed before the version could be completed; and when it was effected, the neck of the uterus grasped the neck of the child so firmly, that I experienced the greatest difficulty in extracting the head, and not till I had made pressure for some time with the fingers, and dilated the orifice of the uterus. A great discharge of blood instantly followed; the placenta was removed, and every means employed to stop the hæmorrhage; but the breathing became hurried, the extremities cold, and she died in less than an hour after delivery.

Dr. Merriman informed me that a patient of his had actually died under similar circumstances, before the head could be extracted.

The last case of hæmorrhage from placental presentation which I shall relate, occurred to Dr. H. Davies and myself, still more recently; and the circumstances were, if possible, still more distressing and unfortunate.

CASE XXIII.—Mrs. H. was attacked with uterine hæmorrhage at the beginning of February, 1839, when seven and a half months pregnant. About twelve days after it returned a second time, and yesterday morning a third time. About half-past 12, on the night of the 5th March, 1839, Dr. Davies requested me to see her with him, as the hæmorrhage had returned in a dangerous form, and the orifice of the uterus was not in a condition to admit of delivery. We found the placenta adhering all round to the neck of the uterus, the orifice rigid and undilatable, and open to the extent of a crown; the head of the child presenting. By cold applied externally and internally the hæmorrhage was restrained till six o'clock in the morning, when it was renewed with violence; the orifice in the same state. Dr. Davies then pressed his fingers through the placenta, tore it in two parts, and perforated the membranes.

8½ A.M.—No hæmorrhage; slight pains.

11 A.M.—No flooding; head pressing into the orifice of the uterus. We were prevented at this time from perforating and extracting the head by the rigid state of the os uteri. She seemed to regain strength during the day, but at 10 in the evening, without any further loss of blood, she began to breathe with great difficulty; the lips were livid, the hands and feet cold, and it was evident she would soon die undelivered if we did not interfere.

I opened the head, and extracted it with the greatest difficulty, in consequence of the firm and rigid state of the os uteri. The operation was scarcely completed before she was dead.

LADY FLORA HASTINGS.

The following account of the post-mortem examination of Lady Flora Hastings has been published officially. Lady Flora died of long-standing disease of the liver. The viscus extended upwards into the cavity of the chest, and inferiorly into the cavity of the pelvis. The publication of this post-mortem examination is the best reply which could have been given to the slanderers of an illustrious personage, and of a distinguished physician. No mental emotion could have produced, or even considerably accelerated the progress of the disease from which Lady Flora Hastings died; and if the symptomatic swelling of the abdomen were, by some, mistaken for pregnancy, it could not have been by one who knew that in pregnancy the swelling is developed from below upwards.

POST-MORTEM EXAMINATION OF LADY FLORA HASTINGS.

Appearances observed on inspecting the body of the Lady Flora Hastings, July 5, 1839.

There was great emaciation of the whole person.

In the chest—the heart and lungs were in a perfectly healthy state; but there were extensive adhesions of the pleura (or membrane) covering the right lung to that which lines the ribs—evidently of long standing.

In the abdomen there were universal adhesions of the peritoneum (or membrane which lines the cavity and covers the viscera), so that it could not be said that there was a single organ which was not, at every point on its surface, intimately connected with the parts in its vicinity. The liver was very much enlarged, extending downwards as low as the pelvis, and upwards so as very materially to diminish the capacity of the right cavity of the chest. The gall-bladder contained a small quantity of bile. The liver was of a very pale colour, but its structure was not materially different from what exists in the healthy state. The stomach and intestines were distended with air; their coats, especially the muscular, were very much attenuated. The spleen and pancreas were free from disease. Some of the mesentric glands were enlarged. There were a few small deposits of unorganized yellow matter apparently in the substance of the adhesions.

The uterus and its appendages presented the usual appearances of the healthy virgin state.

From the character of the adhesions, it was plain that they could be referred only to inflammation at some former and distant period of time. The effect of them must have been to interrupt the passage of the contents of the stomach and intestines, and in various ways to interfere with the due performance of their functions.—*Lancet.*

CAUSES OF ALBUMINOUS URINE.

It is, perhaps, impossible to establish any classification of these derangements which shall embrace, under the same head, all those resembling each other in most essential particulars, and separate such as are marked by special charactefs; but we venture to propose the following, provisionally, as the least objectionable in the existing state of our acquaintance with the subject. A most important distinction between albuminous urines, practically considered, and one which of course exists in nature, is their being thus impregnated during the process of secretion (which might depend either on a morbid state of the blood, or on a defective exercise of its secretory function on the part of the kidney), or simply by subsequent admixture; but as it seems hardly possible to decide, in many cases, to which of these categories albuminous urine belongs, we have not adopted it as the basis of our classification. Our fourth class is a full one; some of our readers may probably contend that it should be still fuller.

ALBUMINURIA MAY BE CAUSED BY

A. *An abnormal condition of the blood, dependent on*
  Scurvy,
  Purpura,
  Hæmorrhagic eruptive fevers,
  Absorption of pus?
  ——— albuminous or dropsical effusions?

B. *Lesions of genito-urinary apparatus.*
  a. Functional.
    Essential hæmaturia,
    Diabetes,
    Secretory excitement of urinary organs and passages, produced by ...... } Articles of food. Medicinal agents.
    Active renal hyperæmia.

  b. Organic.
    1. Which cause the foreign admixture during the act of secretion.
      Acute and chronic simple nephritis,
      Pyelitis,
      Bright's disease.
    2. Which cause impregnation subsequently to the act of secretion:
      Blood thrown out in cases of
        Contusions, wounds,
        Calculous pyelitis,
        Cancer of kidney,
        Fungous tumours,
        Acute cystitis.
      Tubercle,
      Encephaloid,
      Strumous matter,
      Pus—*e. g.*, in cases of prostatic abscess,
      Muco-pus, in catarrhal inflammation of mucous membrane of urinary passages, especially of the bladder.

C. *Accidental admixture of healthy genito-urinary albuminous products.*
  Semen,
  Prostatic secretion,
  Catamenial fluid.

D. *Doubtful Cause.*
  Acute febrile affections,
  Hysteria?
  Scarlatina { Primary fever, Succeeding anasarca,
  Gout?
  Chronic diseases independent of renal lesion,
  Chylous urine.

Such seems to be a tolerably accurate enumeration of the various conditions under which albuminuria has been observed. From the facts related or referred to, the subjoined propositions are immediately derived by the writer.

1. To infer the existence of a special lesion of the kidneys from the mere presence of albuminuria is utterly incorrect.
2. Consequently, boiling the urine of all the inmates of the hospital, according to the plan of certain observers, in order to determine the frequency of Bright's disease, is liable to lead to false deductions.
3. It will be necessary for future observers to specify the condition of their patients in respect of all the agencies presumed to give rise to a discharge of albumen with the urine, in order to entitle them to refer its appearance indisputably to any one of those agencies rather than another.
4. The characters of the albuminous precipitate itself, as well as those of the urine containing it, must be much more carefully noted than has hitherto been habitually done.—*Brit. & For. Med. Rev.*

TREATMENT OF LATERAL DEVIATION OF THE SPINE,

BY DIVISION OF THE MUSCLES OF THE BACK.

By M. Jules Guerin.

M. JULES GUERIN, editor of the "French Medical Gazette," who is, perhaps, the first authority in France on all points connected with deformities of the muscular or osseous system, has recently addressed the following letter to the Academy of Sciences, on a new mode of treating lateral deviations of the spinal columns:*—

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* Lancet.

I have the honour of acquainting the Academy with the results of a new operation which I have performed in twelve instances, with success, on patients affected with lateral deviation of the spine. The operation consists in dividing certain muscles of the back and spinal column. Those which I have divided up to the present moment are the trapezius, rhomboideus, levator scapulæ, sacrolumbalis, longissimus dorsi, and inter-transverse muscles.

I have already demonstrated, in another work, that the majority of the deformities which affect the joints depend on spasmodic muscular retraction, the result of some affection of the nervous centres, or of the nerves distributed to the muscles. This proposition which has been shown to be generally applicable to deformities of the neck, spine, hip-joint, wrist, and ankle-joint, &c., naturally led to the deduction of two corollaries,—

1. That the various species of deformity which affect the joints, &c., depend on muscular retraction, affecting variously the different muscles.

2. That the active treatment of each deformity should consist in the division of the muscles or tendons whose retraction gave rise to the specific deformity.

To obtain, however, the object in view, it was necessary to determine with precision the muscles on the retraction of which each deformity might depend; and, on the other hand, show, by actual experiment, that the theory was correct; or, in other words, cure the deformity by the section of the muscles supposed to be affected. This I have done in cases of wry neck and in the different varieties of club-foot, and having extended the practice to lateral deviations of the spinal column, I have demonstrated the truth of the two following propositions:—

1. The majority of lateral deviations of the spine depend on active muscular retraction, and their anatomical varieties are but the expression of this retraction occurring in various degrees in the muscles of the spine and back.

2. The active treatment of this order of deformities should consist in dividing (underneath the skin) the several retracted muscles.

The operations which confirm my theory, were performed on individuals of both sexes and of different ages; the youngest being thirteen, the oldest twenty-two years of age. The deviations had all arrived at the second or third degree, with torsion of the spine, and proportionate gibbosity. In some cases a single section of the retracted muscles was sufficient for the cure; in others I was compelled to operate two or three times. In all cases I obtained immediately after the operation a well-marked degree of straightening of the spinal column, and in one case, that of a young man, twenty-one years of age, who had been treated mechanically for the last eighteen months, the deviation *immediately* disappeared after the division of the longissimus dorsi and corresponding inter-transverse muscles. In all the other cases I was enabled to complete the cure by mechanical means, and my success was constant. In the twelve operations which I have performed, no accident of any kind occurred; there was no hæmorrhage; but little pain; no fever; and in all except one, union of the wound by the first intention was obtained.—*French Med. Gaz.*

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

DR. GRAVES IN THE CHAIR.

1. *Perforating ulcer of the stomach.*—Dr. Hutton exhibited a recent specimen of a large ulcer situated at the lesser curvature of the stomach: it had penetrated the peritoneal covering; the coronary artery ran close along the edge of the aperture. This ulcer was obviously chronic.

The preparation was taken from a body of a young female, to all appearance healthy; seven days previous to her death she received an extensive burn of the face, neck, and shoulder: upon the evening of the sixth day after the receipt of the injury she was seized with vomiting, and on the morning of the seventh day abdominal pain set in, followed by collapse. She died of peritonitis on the next day. (Museum, Richmond Hospital.)

2. *Ileo-cœcal abscess, with perforation of the intestine and groin.*—Mr. Ferrall presented the recent parts in this case. The patient, a young girl, was admitted into the Meath Hospital, with tumour in the right iliac region, about fourteen days after the first attack; suppuration of the tumour had then occurred; the bursting of the abscess was soon indicated by a copious discharge of purulent matter from the bowels; soon after this another tumour formed in the upper part of the thigh, separated from the former by a deep sulcus corresponding to Poupart's ligament, below which an opening occurred, through which pus and ultimately fæcal matter was discharged. Mr. Ferrall exhibited the mode of communication between the abscess and opening in the groin; the fistula took a direction at first downwards, and afterwards upwards and inwards, the omentum adhered to the parietes of the abdomen and cæcum; the communication from the abscess into the intestine was by two small openings separated by a slip of mucous membrane, and resembling the appearance often seen in the integuments when an abscess opens by a slough.

An important peculiarity in this case was the mode in which the matter had made its way externally—namely, by perforation of the iliac fascia, and descent on the outside of the femoral vessels.

Mr. Ferrall also showed, that in this case the communication with the intestine did not, as Dr. Burne supposes, take place through the appendix vermiformis, the appendix being free from disease. The perforation had arisen from the abscess into the intestine, being the third form of the disease formerly described by Mr. Ferrall in the Edinburgh Journal. He owed the specimen to the kindness of Dr. Stokes. (Museum, St. Vincent's Hospital.)

3. *Incipient Cirrhosis of the Liver, with Chronic Gastritis and Congestion of the Mucous Membrane of the Intestines.*—Mr. Carmichael exhibited the recent parts in this case. The viscera were those of an habitual drunkard; the liver was but slightly diminished in size; the left lobe presented a more marked type than the right, and had a mammillated appearance, which was scarcely to be detected in the right portion of the organ; the spleen was much enlarged; the mucous membrane of the stomach was thickened and of a slate colour, and that of the small intestines deeply congested; the lungs presented a great number of tubercles in different stages. (Museum, Richmond Hospital.)

This patient died with ascites, for which he had been twice tapped. Mr. Carmichael considered that in this case, and others of the same description, the primary lesion was inflammation of the gastric mucous membrane, and that the lungs were subsequently tuberculated.

4. *Extensive fracture of the cranium, in consequence of a fall during an epileptic paroxysm.*—Mr. Cusack exhibited a portion of the cranium of an individual, who, in a paroxysm of epilepsy, fell with violence on a stone floor. The skull was extremely thin; the right frontal bone was fractured and depressed, and the internal table extensively separated from the external. About two ounces of blood were effused from the middle meningeal artery, which had been torn across. The arachnoid was vascular, and some effusion existed beneath it. Snbsequent to the fall the patient recovered his senses, and remained free from any attack until the next day, when the convulsion returned, and was repeated several times previous to his death. (Museum, Park Street.)

5. *Formation of numerous cysts in the kidneys, with extensive depositions of phosphate of lime.*—Dr. Corrigan presented the kidneys of an individual who had long laboured under symptoms of irritation of the bladder and urethra; he had curvature of the spine of long standing. On dissection, the urethra, prostate, and bladder, were found healthy; one kidney was converted into a number of large cysts, while the other presented the same disposition, but with this difference, that the loculi contained great quantities of a substance resembling putty, and composed of phosphate and carbonate of lime, with a slight trace of albumen. In the course of the disease the patient laboured under hæmorrhage from the bladder. (Museum, Digges Street.)—*Dublin Journal of Medical Science.*

ACTION OF THE ILEO-CŒCAL VALVE.

Dr. O'Beirne said he wished to make a few observations on one or two cases of strangulated hernia. These cases had been under the care of his colleagues in the Richmond Hospital—Dr. M'Donnell and Mr. Adams, who had given him permission to make use of them, as one of them illustrated, in a very striking manner, his views respecting the functions of the ileo-cœcal valve, and all of them his peculiar opinions on strangulated hernia. The first case was that of J. M'Mahon, aged 51, who had been admitted into the Richmond Hospital on the 23d of August, 1838, with strangulated inguinal hernia. Among other means employed, the tube had been tried, but without effect, and it was found necessary to operate. On opening the sac, the causes of the failure of the tube were found to be three-fold, viz.—1st. The existence of a membranous band on the outside of, and compressing the sac, 2d. Firm adhesions between the protruded portion of intestine and the sac, posteriorly. 3d. The presence of hardened fæces in the cavity of the strangulated portion of the bowels. But the most interesting part of the case respected the new doctrine which he had put forth in regard to the function of the ileo-cœcal valve. In his work on defecation he had laid it down as a proposition, founded on well-known facts, and on numerous experiments upon the dead subject, that the action of the ileo-cœcal valve cannot be reversed either in health or disease. It only remained, therefore, in order to establish this proposition beyond all doubt, that an opportunity should be offered of making an experiment on this valve in the living subject,—an opportunity which this case, it will be seen, fortunately afforded. It is necessary to state that the strangulated portion of intestine was gangrenous, sloughed, and formed an artificial anus—and that this portion was inferred to belong to the cœcum, for the following reasons:—First, from the hernia being inguinal, and on the right side. Second, from the longitudinal bands observed on its surface. Third, from introducing the finger into the artificial anus, and distinctly feeling the pulsation of the right iliac artery. Fourth, from the facts elicited by the following experiment, and which require to be detailed—they are as follow:—on passing his finger into the artificial anus, and directing it upwards along the right iliac fossa, Dr. M'Donnell found that he could move it freely about as in a large cavity, but on passing it towards the left side, and in the direction of the ileo-cœcal valve, he found it opposed by a narrow slit-like aperture, with rather a hard edge, and with some difficulty passed it through this opening. While in this situation, his finger, to use his own words, "was grasped gently, and felt as if a worm were coiled about it; and on attempting to withdraw it, this contractile action was increased, and, like a sphincter, had a tendency to expel his finger." Dr. Hutton also examined and experimented on the valve in the same way, and confirmed Dr. M'Donnell's statements as to the existence of a slit-like sphincter, which contracted and relaxed at intervals. Immediately after Dr. Hutton had examined the parts, Dr. O'Beirne introduced his finger for the same purpose, and felt the slit-like aperture, but found such strong opposition to its further passage, owing to the irritable and spasmodic state of this aperture, that he did not think it prudent to use more force, particularly as the facts just stated had been sufficiently ascertained by the gentlemen who preceded him. It is necessary to observe that the patient upon whom these experiments were performed, suffered no pain or inconvenience from the introduction of the finger into the ileum, and that, with the exception of having an artificial anus, he is now well, and still in hospital. Dr. O'Beirne considered that the results of these experiments on the ileo-cœcal valve were of the greatest importance, and completely established the truth of his proposition—*that the action of this valve cannot be reversed either in health or disease;* for he was quite convinced that no accumulation of fæcal matter in the cœcum could act upon the valve with the same degree of force, or so directly, as had been found necessary in order to pass the finger into the ileum. Dr. O'Beirne concluded by observing, that, after considerable research, he considered himself justified in asserting that this was the first time that any person had ever felt, or experimented upon, the ileo-cœcal valve, in the *living* subject, and that, therefore, he would submit the results for discussion, instead of proceeding to other practical points concerning strangulated hernia.

Dr. Parkinson asked how could stercoraceous vomiting be accounted for if the action of the valve was not reversed ?

Dr. Hart said he did not believe that any such thing as true stercoraceous vomiting ever took place in strangulated hernia. He had examined the fæces most carefully, in a case which had been under the care of Mr. Hutchinson, of the Carrick-on-Shannon Infirmary, and found the matter ejected from the stomach to be quite free from the true stercoraceous odour. He did not believe that the contents of the large intestine were ever rejected by vomiting.

Dr. O'Beirne said that he had met with cases in which the matter ejected from the stomach had all the characters of true fæcal matter, although it had been ascertained that they had never passed the jejunum. As an instance in point, he had attended, some years ago, with Sir P. Crampton, a gentleman who had such organic stricture and thickening of the parietes of the lower part of the jejunum, that the smallest crow-quill could scarcely pass, and yet had found, after death, the contents of the gut above the stricture, as like fæces in odour and appearance as could well be conceived. The same thing has been frequently observed where hernia of a portion of the ileum terminates in artificial anus.—*Dublin Med. Press.*

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ON COMPRESSION OF THE AORTA, TO ARREST UTERINE AND OTHER HÆMORRHAGES.

BY M. BAUDELOCQUE.

To the Editor of The Lancet.

Sir :—The enclosed contains the substance of a paper by M. Baudelocque, entitled " Compression of the Aorta through the Abdominal Parietes considered as an Efficient Means of Arresting every kind of Hæmorrhage occurring in Labour, together with that following Wounds of the Arteries of the Inferior Half of the Body."

I am not aware that the practice advocated by the author of this paper is generally known; should you think it expedient it should become so, perhaps you will afford it a space in your Journal.* I am, sir, your obedient servant,

John Crouch Christophers,
July 8, 1839. No. 17, Portland-street, Soho-square.

The idea of compressing the aorta through the abdominal wall, in cases where the life of a woman in labour is menaced by hæmorrhage, was the result of observing the inefficiency of the means usually employed to check it.

On the 13th of October, 1827, I was called to deliver a woman who was suffering from hæmorrhage, the placenta being attached to the neck of the uterus; and although I made use of every means recommended in similar cases, my patient expired before my face. Reflecting, then, on some means by which hæmorrhage of this kind might be controlled, I conceived the idea of compressing the aorta through the abdominal parietes, thereby imitating the surgeon, who, to suppress hæmorrhage during the amputation of a limb, compresses the principal artery supplying the same. I commenced by proving that the aorta was easily compressed, especially after delivery, as well in stout as in thin persons; the fact being demonstrated, I forwarded the idea to the Academy of Sciences, in a letter, which was publicly read, from which the following is an extract:—" Immediately and efficiently to control uterine hæmorrhage, preceding or following delivery, I propose to compress with the fingers, or any other mechanical means, the abdominal aorta, first causing the superior and inferior parts of the patient to be flexed on the pelvis."

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* Cases illustrative of M. Baudelocque's practice have frequently been published in this Journal.—Ed. L.

From that time the priority of the suggestion for compressing the abdominal aorta in cases of hæmorrhage occurring after delivery, was accorded to me in France; for the most distinguished amongst our professors were not aware that it was possible to compress that vessel, and not one of them knew that the pulsations of that artery could be as readily felt as those of the radial artery at the wrist. Certain objections were made to the method I proposed, which are as follows:—

First. It was argued that, by compressing the aorta, congestion of the heart, lungs, and large vessels would ensue. It is undoubtedly true, that if the aorta were compressed in a person in rude health, this, after a certain time, would be a necessary consequence; but in the cases I propose to employ it, the system has become more or less enfeebled by the quantity of blood lost. Admitting, for a moment, that it did produce the effect alluded to, it is instantly obviated by suspending the compression for a few moments; or better, by not compressing the whole calibre of the vessel, thereby allowing a small stream of blood to circulate through the arteries of the inferior extremities. This is the method I have pursued when called to a case of uterine hæmorrhage,—immediately the flow of blood is arrested; I apply a certain kind of bandage to the abdomen of my patient; I then place my finger on the femoral artery, and when I cease to feel its pulsations, I slightly relax my apparatus. I may here add I do not ask any practitioner to credit what I advance respecting the efficacy of compressing the aorta, I merely require him to test it by experience.

Secondly. Peritonitis has also been feared as a consequence likely to ensue from the congestion that compressing the aorta would produce in the large vessels of the pelvis.

Thirdly. Desormeaux imagined that the compression of the vena cava inferior would accompany that of the aorta, and that if the compression of the aorta had the effect of stopping the circulation of the arterial blood, so would the compression of the vena cava inferior produce venous hæmorrhage; but, after my reply, Desormeaux candidly avowed he had not sufficiently examined my suggestion. Experience, however, has now done justice to these imaginary suppositions: many learned practitioners wishing to judge for themselves, respecting the compression of the aorta, have made the experiment; some have forwarded to me the results of their experience, others have made those results public.

It has been shown that I was the first who proposed to compress the aorta through the abdominal parietes, to check the hæmorrhage following delivery; the method of effecting the same I have made known in my lectures and writings.* I will now go to show that I have often made the experiment in the presence both of practitioners and of *sages femmes*, and that the former, on their parts, have applied it to certain cases in surgery.

The author here goes into an inquiry as to whom the priority of applying pressure to the aorta, through the abdominal parietes, to stop hæmorrhage after delivery, is due. He then proceeds to treat of "compression of the abdominal aorta through the abdominal parietes, followed sometimes by the administration of the ergot of rye, and at others by the exhibition of stimuli." He continues:—I am convinced the ordinary treatment of hæmorrhage after delivery is very dangerous; cold effusion, the injection of cold or acidulated liquids into the uterus, often produces inflammation of the veins of that organ, a malady that proves fatal. I am led to this conclusion from a case that occurred at the Lying-in Hospital at Paris: a woman who had the placenta inserted into the neck of the uterus was delivered by turning: the hæmorrhage was arrested by injections of cold water, mixed with vinegar. The following day she laboured under cephalalgia and fever, which increased. On account of her extreme debility and the quickness of her pulse, Desormeaux thought fit to order her some nourishment. On the seventh day she died; the body was opened, and the veins of the uterus were filled with pus.

Another case occurred in the same establishment, in which the placenta was but in part inserted into the neck of the uterus. She suffered from hæmorrhage during twenty-four hours; she was delivered by turning; the bleeding was stopped by the application of cold water, externally and internally; but the enfeebled patient survived but twenty-four hours. On opening the body pus was found in the left internal iliac vein; so that of all the means ordinarily employed to check uterine hæmorrhage there remains but one really good method, viz., the introduction of the hand into the uterus, in such manner that the fingers do not tear its tissue. My mode of proceeding in cases similar to the above, when the hæmorrhage preceding delivery is not of great amount, is to detach the placenta in accordance with the ordinary rules. If it be abundant, with the fingers of one hand I compress the aorta through the abdominal parietes, while with the other, introduced into the uterus, I detach the placenta.

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* We have already shown that M. Baudelocque was *not* the first to propose this method which had been suggested by Ulsamer, in 1823, and practised by him with success in 1825.—Ed. L.

If after delivery the hæmorrhage is trifling, I give a dose of the ergot of rye; but, on the contrary, should it be alarming, and rapid, I immediately compress the aorta with one hand, and administer the ergot, repeating it a second time if required, at the interval of a quarter of an hour; I then introduce the other hand into the uterus, with the object of relieving it of any coagula it may contain, rather than to excite it to contract, and there allow it to remain till it is expelled. By this mode of treatment I never lose a patient. If hæmorrhage existed during gestation and labour, it becomes (as is generally known) much more serious, and more frequently fatal after delivery. In such cases I administer, in the first place, a glass of Spanish wine, in a lavement, which I instruct the patient to retain. I then compress the abdominal aorta with the fingers, and when the uterus has contracted on itself, maintain the compression by means of a bandage contrived for the purpose by Mme. Petitjean, which I tighten in such manner as to allow but a very small stream of blood to pass into the femoral arteries, the pulsation of which I from time to time explore; I place the woman horizontally on her bed, with the pelvis more elevated than the rest of the body, and occasionally administer a spoonful of wine and beef-tea alternately, with small lavements of the latter; I wrap warm cloths around her limbs, to render the capillary circulation more active, and to induce heat. By these means I affirm that I have never lost a single patient, who, at the moment I arrived, had but a few ounces of blood in circulation. From the foregoing it appears that the employment of the ergot of rye is indispensable as a secondary means in arresting those alarming hæmorrhages which occur after delivery; and, on the other hand, that it possesses no sort of efficacy when the hæmorrhage must be instantly checked, the patient being in a state of complete exhaustion; in the latter case there is but one means of saving the life of the woman, viz., mechanically and instantaneously to suppress the hæmorrhage, and to restore her strength as speedily as possible. With regard to the facility of compressing the aorta, M. Baudelocque observes: every one knows that immediately after delivery the walls of the abdomen are soft and relaxed; that the linea alba, examined in the umbilical region, presents an increased extent, varying from twenty lines to four inches or more, and that the intestines have not then returned to their ordinary situation; so that after flexing the superior and inferior parts of the body on the pelvis, by making pressure with the fingers immediately above the fundus of the uterus, the pulsations of the aorta are felt more readily than those of the radial artery at the wrist. Experience has taught that if the compression is exercised even above the umbilicus, that the blood flowing from the uterus forthwith stops. It may be here remarked that should this effect fail to be produced, it is to be attributed to the person exercising the pressure, who should immediately remove his hand towards the left side of the vertebral column. The length of time the compression of the aorta must be kept up is necessarily in relation to the quantity of blood the woman has lost. If, for example, she have lost but little, a few moments will suffice, because soon after the compression is effected the ergot of rye can be given. If, on the contrary, she have lost a large quantity of blood, the compression must be prolonged from half an hour to an hour, and when the hæmorrhage has ceased, compression must be continued by means of a bandage to prevent its return; indeed, when hæmorrhage after delivery is stopped by bandaging the abdomen, it is only effected by pressing the uterus against the spinal column.

The author here details cases from his practice, and from that of other persons, the heads of which I only give, fearing to intrude too largely on your space.

A case of alarming hæmorrhage which I have suspended by momentarily compressing the aorta through the abdominal parietes, and which I have finally arrested by administering the ergot of rye.

Five cases in which hæmorrhage could not be checked but by prolonging the compression of the aorta, and by administering stimuli.

Three cases of hæmorrhage in which I prolonged the compression of the aorta, and gave stimuli, without success, the women being at the time of my arrival exsanguine.

Cases communicated by other practitioners:—One by M. Collin, M. Maupas, M. Evrat, Madame Petitjean, M. Bonafont, Mr. Blount (an English practitioner), Latoar, Lovenhart, Murlin, Pinel Grandchamps; this gentleman says—"The compression of the abdominal aorta, a means so simple, yet powerful, renders those who employ it masters of the existence of the unfortunate lying-in patient, and I fearlessly assert that it is one of the happiest conquests of modern surgery."

M. Baudelocque concludes his paper by enumerating the different cases of hæmorrhage that can with advantage be suspended by compressing the aorta, through the abdominal wall.

BRITISH MEDICAL ASSOCIATION.

Tuesday, July 16.

PROCEEDINGS OF COUNCIL.

The minutes of the last meeting were read and confirmed.

A note was read from Mr. J. C. Neale, thanking the Association for their timely assistance of 2*l.* from the Benevolent Fund.

A letter was read from Dr. Maunsell, Secretary of the Irish Medical Association enclosing the following resolution:—

"That the best thanks of this Council be given to the Council of the British Medical Association, for their offer of co-operation in carrying out a general measure of medical reform, and that the Secretary be instructed to communicate to the President of the British Medical Association the earnest wish of this Council that a deputation from the British Medical Association should be appointed to meet and confer with the deputation from this Council, and with the Provincial Medical Association, at the Liverpool meeting."

Resolved,—"That in the opinion of this Council it is expedient, in the present state of medical affairs, to appoint a deputation from the British Medical Association to meet their corresponding member, Dr. Maunsell, and the other gentlemen of the deputation from the Medical Association of Ireland, and the members of the Provincial Association, at Liverpool, to confer with them on a general measure of medical reform."

Resolved,—"That the President, Dr. Marshall Hall, and Mr. Far, be requested to form the deputation."

The remainder of the evening was occupied in revising the proof-sheets of "Outlines of a Plan of Medical Reform," which were finally agreed to as below.

OUTLINES OF A PLAN OF MEDICAL REFORM.

At meetings of the Council of the British Medical Association, held at Exeter Hall, on the 9th and 16th of July, 1839, a Report of the Sub-committee, appointed to take into consideration the preamble and clauses of a Bill for carrying into effect a general measure of Medical Reform for Great Britain and Ireland, having been read, and discussed at great length,—

The following resolutions, embodying the fundamental principles on which the British Medical Association was established, were unanimously declared to contain those on which the said Bill ought to be founded, viz:—

1. "That it is expedient and necessary to unite all the legally qualified members of the medical profession, of the British dominions, into 'One Faculty,' to be entitled 'the British Faculty of Medicine.'

2. "That this 'Faculty' shall have the power to elect periodically, by ballot a governing body, to be called 'The General Medical Senate,' consisting of a Senate in London, Edinburgh, and Dublin, to be elected by the respective members of the Faculty in each country.

3. "That these National Senates, (of England, Scotland, and Ireland,) elected as aforesaid, shall each be subject to the same regulations: and that their members, or a part of them, shall meet from time to time, to consult together, and act unitedly as 'The General Medical Senate,' in framing and administering all necessary laws for the government and protection of the Faculty.

4. "That the General Medical Senate, so constituted, shall alone have power and authority to frame, adopt, and promulgate all necessary by-laws, for

1st, Regulating the said Faculty.
2d, Defending the respective right and privileges of the members.
3d, Superintending the medical police of the country.*
4th, Advising her Majesty's Government on all subjects connected with the public health.

5th. "That the Members of the Councils or Boards of the several existing Medical Corporate Bodies in England, Scotland, and Ireland, shall be invited to take part in the preliminary steps towards the formation of the first General Medical Senate.

6. "That all future Candidates for practice in the healing art, shall be examined by a Board elected under such regulations as the General Senate shall enact for that purpose.

7. "That an uniform high qualification—the result of an extended course of preliminary and professional education—shall be required of all the candidates: to be tested by one or more public examinations—theoretical and practical.

8. "That all persons examined and recognised by the Senates, and admitted members of the Faculty, shall receive the same title or denomination; enjoy equal rights and prlvileges, and alone have the power to exercise any or all the branches of the healing art in any part of the British dominions; subject to such regulations as may or shall be established by the General Senate for the interests, welfare, and respectability of the profession.

9. "That no member of 'the British Faculty of Medicine,' shall be permitted to *sell* drugs, or to compound medicines, unless prescribed by himself, or by others in consultation with him, and for his own patient or patients, except in rural districts and by special license from the Senates.

10. "That members of the Faculty, who may continue, or wish to act as general practitioners, and supply their own patients with medicine, shall be authorised to charge for their attendance, in addition to the cost of medicines so supplied.

11. "That in future, all persons purposing to exercise the calling of chemist and druggist, or compounders and sellers of medicines (to whom the title of apothecary shall henceforth be limited), shall undergo a suitable examination before a Board appointed by the General Senate, and be licensed accordingly, exception being made of persons already so engaged.

12. "That a general and continuous register of all persons who are now legally practising, or who shall in future be legalised to practise the healing art, shall be kept in each of the three kingdoms, under the direction of their respective Senates, as also of those who are now allowed, or who shall in future be licensed to act as chemists and druggists, or compounders and sellers of medicines; and that such general registers shall be the only great public documents to be re-

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* The question of quackery; the granting of patents for particular medicines; and the sale of poisonous substances, will form parts of this department.

ferred to, in order to establish the legality of any medical practitioner, chemist and druggist, or compounder and seller of medicines.

Resolved unanimously, "That the foregoing resolutions be forthwith printed, with a view of apprising the members of the Association, and the profession at large, of the intended measure of Medical Reform, and of affording them the opportunity to consider the same, and to communicate any suggestions to the Council of the Association."*

Geo. Webster, M.D., President.
Exeter Hall. C. H. Rogers Harrison, Hon. Sec.
—*Lancet.*

BIBLIOGRAPHY.

A Treatise on the Diseases of Infants, founded on Recent Clinical Observations and Investigations in Pathological Anatomy, made at the Hospice des Enfans Trouvés. With a Dissertation on the Viability of the Child. By C. M. Billard, M.D., of Paris, &c., &c. With Notes by Dr. Olliver of Angers. Translated from the Third French Edition, with an Appendix, by James Stewart, M.D. New York, George Adlard, 168 Broadway; John Churchill, London; and Fannen & Co. Dublin. 1839. pp. 620. 8vo.

The profession, wherever the English language is spoken, is under great obligations to Dr. Stewart for his clear translation of Billard's excellent Treatise on the Diseases of Infants. This work is a mine of knowledge to the general practitioner who desires to obtain precise notions of the pathological states of the organs and of the causes and prevention as well as cure of the diseases of the infantile period. If it be not all which we could desire, it is decidedly in advance of any preceding work in our language, and will, if carefully perused, as it so well deserves to be, prove a corrective to a goodly share of empiricism with which English and American works are too often defaced.

But in this oblique censure of empiricism at home, we do not wish to be understood to allege, either that there is none of it abroad, or that even in Dr. Billard's Treatise the exhibition of the characters of infantile disease, and the connexion between these and a successful therapeutical treatment, are placed on such a strictly scientific basis, as to be uniformly both true in fact and readily appreciable by the profession at large. Some will object, in perusing this work, that an undue predominance is given to accounts and descriptions of marked changes of structure over the enumeration of remedies and of their combined and alternate exhibition and effects. To this objection the reply is easy, and we believe satisfactory, viz:—that it is the clear duty of every man of science, whether he has to deal with vital or with common physics, to collect and arrange into a body of institutes those facts and phenomena which are of frequent occurrence, and which therefore it is the more incumbent on us to know, without his being obliged to wait until other facts and phenomena more obscure and complicated can be also embodied into a doctrine and connected with the first series. It is a popular objection to pathology, and particularly to that department in which we take cognisance of morbid structure, that it does not reveal to us therapeutics, and that a man may be a successful practitioner without his being a good pathologist. By the same kind of argument we ought to admit that learning, in general, is of little moment compared to practical observations and common sense, and that a *natural* bone-setter, born with the gift, is under no necessity to learn, but on the contrary may laugh at and ridicule, the principles of surgery. The true question is not which shall we choose: personal experience and personal dogmatism, for the latter is very apt to follow the former if it be alone relied on; or the knowledge of the schools and their dogmas; but rather the obvious necessity of combining all the scattered knowledge of the schools and of authors with one's own experience, and of studying and becoming acquainted with *seriatim* the several divisions of this knowledge. Hence an admission of the value of therapeutics cannot, even by implication, be any argument against pathology; so neither should a physician, learned in this latter, rest contented under the belief that he is therefore prepared to cure disease. But were we to suppose, and such is the fact, that a knowledge of the stock of remedies, or of the means of acting on the organs by evacuation, irritation, and other perturbations, is common to nearly all practitioners of intelligence and reading, it can hardly be denied that the chances, at least, will be in favour of the physician applying these means with a view to their remedial effect with most success who has most distinctly before him the data on which he is to make his calculations—that is, who has a clear view of the state of the organ which is lesed, and of those others which are sympathetically disturbed in their functions. It certainly must be regarded as something towards the solution of a difficult problem to know *in limine* the terms of the latter. Now, as the object and desire of the physician are to remove that abnormal state of the functions which constitutes disease, is it not necessary that he should make himself acquainted with the changes of the organs on which disturbance of function depends, and of the order, if not the mode, of transmission of disturbance from one organ to another. So, also, if his object be the prevention of diseases, will he not naturally wish to be able to appreciate the gradual deterioration and degeneration of the tissues under the influence of certain morbid agencies by which nutrition is impeded or perverted, and thus be able to apply the appropriate prophylaxis without wasting his time, and, still worse, the remaining powers of life of his patients by the administration of certain drugs empirically recommended for the removal of certain symptoms merely.

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* In drawing up the above plan, many obvious *details* present themselves at every step; but the Council have been anxious to embody only such PRINCIPLES AND OUTLINES as they humbly conceive ought to be comprehended in any great measure of National Medical Reform, leaving the details to the proposed Faculty or to the Senate.

This last observation suggests to us one of the capital and commendable features in the Treatise of M. Billard. It is. in his tracing the deleterious operation of impure air, deficient food, and cold and moisture on the organs, and in showing the gradual alteration and change of their tissues by which the development and growth of the young being are arrested, and either acute disease directly induced, or a complication of morbid phenomena if the malady have proceeded from other causes. M. Billard's position as physician to a large Foundling Hospital, enabled him to collect a store of facts which bear on this point. But whilst we admit their value we must not therefore draw the hasty conclusion that they are represented by a similar state of things, to any extent, among the children of this country. We are, happily, without a single institution like that of the *Enfans Trouvés* in Paris and other cities on the continent of Europe, in which the offspring of criminal passion, or of heartless though married parents, is consigned at birth to a hospital. Death soon relieves the majority of these little beings from suffering. Some last a little longer than the

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others, and furnish originals to the melancholy pictures which M. Billard has drawn so forcibly in the work before us. Already, however, in our large cities, cases, not a few in number are met with, of perverted nutrition and its train of morbid complications amongst the children of the indigent and the thriftless, the full understanding of which will be aided by a reference to his pages.

Hopeless of being able to convey to our readers by the necessary extracts anything like an adequate knowledge of the copiousness of pathological and clinical details of M. Billard's Treatise, we shall simply indicate its more salient points; believing that we shall have said enough to induce a lively curiosity on the part of our readers to become possessors of the book itself.

The first part contains an enumeration of the appearances presented by an external examination of the child. In the second, the diseases of the infantile period and their seat, probable nature and cure, are described. The first chapter treats of *Diseases of the Skin*, including *malformations and congenital diseases;* then of *Diseases of the Skin not inflammatory;* afterward of *Inflammations of the Skin.* Eighty pages are devoted to these subjects.

Chapter Second is on *Diseases of the Digestive Apparatus*, of which Section I. treats of *Diseases of the Mouth;* Section II., of *Development and Diseases of first Dentition;* Section III., *Diseases of the Salivary Glands;* Section IV., *Diseases of the Guttural Portion of the Digestive Tube;* Section V., *Diseases of the Œsophagus.* Under the head of Diseases of the Sub-diaphragmatic Portion of the Digestive Tube, the first section is given to a consideration of the *Diseases of the Stomach developed during intra-uterine life;* and also, chiefly, to those of this organ *which are developed after birth.* Section II. is on *Diseases of the Intestinal Canal.*

In Chapter III. we are made acquainted with the Diseases of the Appendages to the Intestinal Canal, chiefly, the *Development and Malformations and Diseases of the Liver.*

Chapter IV. is on *Diseases of the Urinary Apparatus.* Chapter V. on *Peritonitis.* Chapter VI. *Ascites.* Chapter VII. *Abdominal Hernias.* Chapter VIII. is on *Diseases of the Respiratory Apparatus*, including *Croup*, *Bronchitis*, *Pneumonia*, *Congestions and Pulmonary Apoplexy*, *Pleurisy and Hooping-Cough.* Chapter IX., on the *Diseases of the Circulatory Apparatus*, introduces us to those of the *Heart* and to *Pericarditis.* Chapter X. on *Diseases of the Cerebro-Spinal Apparatus* developed after birth, including *congestions, softening, spinal and cerebral meningitis, and inflammation of the spinal marrow and brain.*

Chapter XI. takes cognisance of the *Diseases of the Organs of Locomotion*, and Chapters XII., XIII., XIV., XV., XVI., and XVII., of, respectively, *Diseases of the Organs of Generation*, of the *Lymphatic System*, *of the Eyes*, of the *Jaundice of New-Born Infants*, of *Accidental Tissues of New-Born Infants*, and of *Alteration of the Blood.*

There are no less than eighty-six cases introduced illustrating the symptoms and morbid changes of the various diseases described.

The second Part, on Malformation and Congenital Diseases, together with the medico-legal deductions therefrom, are especially valuable to the medical jurist, and not a little gratifying to those who are athirst for pathological knowledge.

An appendix by the translator, Dr. Stewart, consisting of upwards of fifty pages, of small type, in the form of notes, explanatory and corrective of the text, is evidence of his industry, and at times of his patriotic zeal, in defending American writers and practitioners against, as it seems to him, the occasionally harsh strictures of the author.

The mechanical part of the volume is well done and highly creditable to the publishers. May they and the translator meet with the encouragement which is so well merited, by a speedy sale of M. Billard's superior Treatise.

Lectures on Phrenology. By George Combe, Esq. Including its Application to the Recent and Prospective Condition of the United States. With Notes, an Introductory Essay, and an Historical Sketch, by Andrew Boardman, Recording Secretary of the Phrenological Society of New York. "This is truth, though at enmity with the philosophy of ages."—*Gall.* New York: Samuel Colman. 1839. pp. 389. 12mo.

This work will be found a very convenient manual on phrenology, and we have Mr. Combe's letter to the editor for authorising us to add, an accurate report of the lectures of that gentleman. To those who have never heard him, and the number must be necessarily great, this volume, with its pictorial sketches, will give a good idea of the staple of his lectures, and of the philosophy of the science; although no one who has the opportunity of hearing and seeing him deliver a course will think for a moment of substituting its perusal for the superior advantages of oral instruction, enforced as it is by the introduction of numerous casts and drawings. We cannot but believe, also, that they who have followed Mr. Combe's lectures the most regularly, will be the most eager to become possessors of this volume; since it will supply details and references of a specific nature, which the most tenacious memory, quickened by the most eager and unremitting attention, can hardly be supposed to have treasured up.

The introductory essay and historical sketch* by Mr. Boardman, are creditable to him as a writer and a phrenologist, and add to the value of the book, which is neatly printed and bound, and in all respects entitled to a place on the parlour table.

THE MEDICAL COLLEGE OF PHILADELPHIA.

At last the members of this institution, by an Act of the Legislature in May, to which the Governor gave his signature on the 11th of October, 1839, "have been made and created a body politic and corporate in law and in fact, by the name and style of the Medical College of Philadelphia, and by the same name shall have perpetual succession, and may sue and be sued, have a common seal, purchase and hold and convey all lands and tenements, moneys, goods, chattels, and effects, make all by-laws necessary or proper for the uses of a Medical College and immediately connected therewith, not contrary to the Constitution and Laws of this Commonwealth, and do all and every other matter and thing for the purposes of this act which any corporate or body politic may or can do."

Objects of the College. *Sect.* 2. The objects of the corporation hereby created, shall be to cultivate the science of medicine and all its collateral branches, to encourage the prolongation of the term of study, and the increase of the extent of preliminary knowledge required of candidates for medical honours, to designate such courses of instruction as from time to time may be deemed necessary for the advancement of the science and the elevation of the medical character, and to examine and decide on the qualifications of candidates for medical degrees.

Officers of the College. *Sect.* 3. The officers of said college shall be a President, two Vice-Presidents, a Corresponding Secretary, a Treasurer, a Recording Secretary, and such other officers as shall be provided for by the by-laws; and said officers shall be elected by the members of said corporation, at such times, in such manner, and for such terms, as shall be provided for by the by-laws; and said corporation shall have power to enact by-laws for the government, admission, and expulsion of members—*Provided always, that no organized faculty of professors or teachers shall ever be established by the authority of said College, unless some other collegiate institution, or institutions now or hereafter established within the city of Philadelphia, shall enact laws interfering with the attendance of any medical student upon such course or courses of medical instruction delivered by authority of such collegiate institution or institutions as said student may prefer or select.*

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* We must offer our apology to Mr. Boardman for not complying with his request to contribute to this sketch by an account of the origin and progress of phrenology in Philadelphia. The neglect was quite unintentional.

DEGREES CONFERRABLE BY THE COLLEGE. *Sect.* 4. Said College shall have power to grant the degree of Bachelor of Medicine to any such persons as shall have completed a course of study similar to that now usually required of candidates for the degree of Doctor of Medicine in other colleges in this State.

Sect. 5. Said college shall have power to grant the degree of Doctor of Medicine to any persons who shall have fulfilled the requisites hereinafter mentioned, with such others as from time to time may be presented by the by-laws.

QUALIFICATIONS OF A CANDIDATE FOR THE DOCTORATE. *Sect.* 6. Each candidate for the degree of Doctor of Medicine in said College shall have attained the age of twenty-two years; he shall have pursued the study of medicine for the term of at least three years under the direction of one or more graduates in Medicine; he shall have attended lectures in the city or county of Philadelphia on each of the following branches, or on such subdivisions thereof as shall be deemed collectively equivalent thereto, delivered by lecturers recognised by said College, and shall have attended the same to the number of courses herein designated, and upon each course for a period of four months: *Anatomy, general and special*, two courses; *Chemistry*, one course; *Natural Philosophy*, one course; *Physiology and Pathology*, two courses; *Materia Medica and Pharmacy*, two courses; *Special Therapeutics*, two courses; *Institutes and Practice of Surgery*, two courses; *Obstetrics*, two courses; *Diseases of Women and Children*, one course; *Medical Jurisprudence*, one course. He shall, also, have pursued *at least one course of Dissections* under the directions of a teacher recognised by the College, and shall have attended for at least one year the practice of some hospital containing not less than fifty beds, and in which clinical instruction is given. He shall also produce to the College satisfactory evidence that he possesses a good moral character.

CONFERRING OF DEGREES, AND APPLICATION OF THE FEES FOR GRADUATION. *Sect.* 7. The degrees herein mentioned shall be granted on such terms and in such manner, as shall be prescribed by the by-laws, conformably to the foregoing sections; and all fees received from persons applying for degrees shall be distributed and applied in such manner as shall be directed by the by-laws.

We abstain, at present, from any comments on the important step towards a more enlarged and efficient system of medical education, indicated by the above charter. It will be our duty, hereafter, to examine the subject in all its bearings, and to contribute our share towards the successful workings of the new system.

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PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THE mere institution of a Pathological Society would argue praiseworthy intention; but that of Philadelphia, from the character of its acting and active members, gives positive promise of success and usefulness, which is already in progress of fulfilment by the communications made, and specimens exhibited, at its first meetings.

This society, consisting of gentlemen brought together by a community of taste and zeal for pathological inquiry, is properly desirous of being noted for the positive additions made to our knowledge of morbid structure and associated derangement of function, rather than for its numbers and much talking.

The report of the proceedings of the Dublin Pathological Society, inserted in a preceding part of this Journal, gives an example and a measure of what may be expected in a similar record of the Philadelphia Society. The proceedings of this latter will be chronicled in our next.

THE ECLECTIC

JOURNAL OF MEDICINE.

Vol. IV. DECEMBER, 1839. No. 2.

I.

BLOOMINGDALE ASYLUM FOR THE INSANE.*

On the occasion of first opening the asylum, (1821,) 52 patients were removed from the hospital in town, (New York,) but the majority of these (probably nine-tenths), were incurable, and consequently not materially benefited by the change.

From this period, to the close of the year 1836, 2037 patients were received into the Bloomingdale Asylum. From this number the following tables have been drawn. Some of them, unfortunately owing either to neglect in filling up the register, or inability to procure the necessary information, are not so full as might have been wished. Other tables again only include 10 and 12 years. As they stand, however, the utmost reliance may be placed on their accuracy.

Table of Yearly Admissions.

Dates.	Admissions	Dates.	Admissions	Dates.	Admissions	Dates.	Admissions
1821	124	1825	156	1829	91	1833	138
1822	102	1826	142	1830	134	1834	102
1823	131	1827	134	1831	151	1835	138
1824	121	1828	134	1832	118	1836	121

Though the mean of admissions, during the series of sixteen years, amounts to one hundred and thirty, the difference in the annual admissions varies from ninety-one to a hundred and fifty-six. This variation might be attributed to general causes, as, for instance, the great commercial crisis of 1825, when the greatest number of admissions was recorded, and the prosperous year of 1829, when the very small number of ninety-one was received into the Asylum, but it is probably owing more to circumstances having no connection with the causes of the malady. Thus, since 1821, asylums for the insane have been established in different parts of the country, poor-houses, with accommodations for the insane, have been constructed in many of the counties of this state, and such restrictions have been placed upon the admission of patients with delirium tremens as to lessen their annual numbers from forty-three to sixteen, so that the differences may be accounted for, in part—at least, by extraneous causes.

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* From a paper on the Statistics of the Bloomingdale Asylum for the Insane, by James McDonald, late Resident Physician to the Asylum, &c. Read before the New York Medical and Surgical Society, and inserted in the New York Journal of Medicine and Surgery, for October, 1839.

Table of the different forms of Insanity, including 1680 *cases admitted from* 1824 *to* 1836 *inclusive.*

Mania, ...	770
Monomania, ...	386
Dementia, ...	226
Idiocy, ...	7
Delirium a potu, ...	291
Total,	1680

Besides the two hundred and ninety-one cases of delirium a potu, the total number of sixteen hundred and eighty includes about one hundred other cases of the different forms of mental disorder induced by the vice of intemperance, making, altogether, three hundred and ninety-one from this cause.

Table of Admissions according to Months.

	1825	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	Total of each month.
January, . . .	5	2	9	9	4	8	4	4	6	5	26*	8	90
February, . .	7	8	3	13	5	7	5	11	10	7	3	8	87
March, . .	7	11	13	9	6	6	10	12	8	6	10	8	106
April, . .	19	9	11	6	5	10	13	13	13	10	13	9	131
May, . .	19	16	15	16	7	17	14	12	8	8	12	12	156
June, . .	19	12	21	10	12	14	18	13	13	12	14	15	173
July, . .	14	16	15	16	12	12	11	10	46*	9	9	12	182
August, . .	12	17	13	16	7	12	28*	6	12	12	9	16	160
September, . .	17	13	7	10	7	10	19*	10	7	5	10	10	147
October, . .	8	13	11	13	9	5	5	13	10	9	15	10	121
November, . .	14	13	11	7	1	15	12	6	9	13	10	4	115
December, . .	11	11	8	9	16	17	12	9	6	6	7	9	121

In order to arrive at a correct estimate of the numbers admitted each month, it will be necessary to deduct the patients sent from the New York Alms-house, as they were merely transferred from one hospital, where they had been received some time previously, to another. Thus, from January we deduct twenty, from July thirty-one, from August seventeen, from September eight, making the scale of admissions as follows :

January, . .	70	May, . .	156	September, .	136
February, . .	87	June, . .	173	October, . .	121
March, . .	106	July, . .	151	November, .	115
April, . .	131	August, . .	143	December, .	121

Admissions according to the Seasons of the Year.

Winter.		Spring.		Summer.		Autumn.	
December,	121	March,	106	June,	173	September,	136
January,	70	April,	131	July,	151	October,	121
February,	87	May,	156	August,	143	November,	115
Total,	278	Total,	393	Total,	467	Total,	372

It appears from the above tables that the three summer months supply the largest, the spring months the next, and the winter months the smallest proportion of patients.

Taking the months singly, the smallest number of admissions is in January, the largest in June. Beginning with January, there is a regular rise in the scale of admissions until the month of June is reached, when there is an uninterrupted descent, month after month, to December.

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* The unusually large number admitted during these months, may be explained by stating that most of them were transferred from the Insane Hospital, for paupers, at Bellevue.

Comparing the admissions into the Bloomingdale Asylum with those into the Royal Hospital at Charenton, they are so similarly graduated according to months, that we are induced to extract the following numbers from the report of M. Esquirol.

Table of Admissions during 1826–7–8 *into the Royal Hospital at Charenton.*

January, . .	37	May, . .	44	September, . .	47
February, . .	49	June, . .	70	October, . .	49
March, . .	53	July, . .	61	November, . .	35
April, . .	58	August, . .	64	December, . .	52

Although the gradation is not so regular as in the former table it is sufficiently so to prove the existence of certain fixed laws, governing the development of insanity.

After allowing the difficulty of transporting patients in cold weather, to account, in part, for their diminished admissions into public asylums, there can be no doubt that those diseases of the brain, usually called mental diseases, originate more frequently during summer than winter; that physical causes, particularly such as produce derangement of the digestive and hepatic functions, and of the surface, are more active at the former, than at the latter season. May not the same be said of moral causes, particularly in a community like this, for is it not in the early part of the summer that the minds of mercantile men are most intently occupied in their hazardous pursuits!

Every one who is familiar with the interior of insane hospitals, knows that they contain by far the largest proportion of recent and violent cases, during the hot months.

Table of Recent Cases according to Months.

	1825	1826	1827	1828	1829	1830	1833	1834	1835	1836	TOTAL.
January, . .	1	2	6	3	2	4	4	2	3	1	28
February, .	5	6	3	7	2	3	7	3	1	1	42
March, . .	2	5	8	6	3	3	5	1	5	5	43
April, . .	10	3	9	3	4	7	5	6	8	5	60
May, . .	10	12	9	12	5	9	2	3	5	5	72
June, . .	10	8	13	9	7	9	4	8	7	6	81
July, . .	8	6	7	11	7	10	8	2	5	7	71
August, . .	7	12	10	12	4	7	6	6	4	8	76
September, .	10	7	3	6	6	8	4	3	1	3	51
October, .	6	7	7	6	8	4	3	2	4	8	55
November, .	7	8	5	3	1	0	6	5	4	0	39
December, .	4	6	4	8	13	0	5	2	5	4	51

This table, which corresponds very nearly with the one before it, is a better indication of the influence of seasons in causing insanity, for all the cases included in the latter, originated immediately before their admission into the asylum.

Table of Nativities of Patients.

New York, 617; Ireland, 139; New Jersey, 103; England, 85; Connecticut, 75; Massachusetts, 56; Scotland, 28; France, 20; Pennsylvania, 18; Rhode-Island, 13; Germany, 12; Vermont, 11; New Hampshire, 8; Wales, 6; New Brunswick, N. S., 5; Sweden, 5; South Carolina, 4; Maryland, 4; Virginia, 4; Maine, 3; North Carolina, 4; Santa Cruz, 3; Canada, 2; Spain, 2; West Indies, 3; Holland, 2; Italy, 2; Switzerland, 2; District of Columbia, 2; Indiana, 1; Delaware, 1; Louisiana, 1; Georgia, 1; Russia, 1.—Total, 1273.

Table of Places of Residence.

New York, 1069; New Jersey, 78; Connecticut, 18; Massachusetts, 15; Pennsylvania, 14; South Carolina, 5; Canada, 5; North Carolina, 4; Vermont, 3; New Brunswick and Nova Scotia, 3; Michigan, 3; Georgia, 3; West Indies, 3; Ohio, 3; Maine, 2; Louisiana, 2; Rhode Island, 2; Mississippi, 1; Tennessee, 1; Maryland, 1; Illinois, 1; Alabama, 1.—Total, 1237.

Table of the Ages of Patients admitted.

	No. of Patients.		No. of Patients.
7 years of age,	1	30 to 40,	315
9	1	40 to 50,	197
12,	2	50 to 60,	92
13,	1	60 to 70,	30
15 to 20,	39	70 to 80,	11
20 to 30,	414	80 to 90,	2

The above table does not include second admissions or natural idiots. All patients, aged 20, (and there are many of these,) are put down as between 20 and 30.

This table shows a result differing, in some respects, from the calculations of European writers. Of 4409 admissions of lunatics into the different hospitals of France and England, the largest proportion was between the ages of 30 and 40; the next between 20 and 30; the next between 40 and 50; the next between 50 and 60; the next between 10 and 20, and the next between 60 and 70.

Of 1125 patients admitted into the Bloomingdale Asylum, it is here shown, that 414, or nearly 37 per cent., were between the ages of 20 and 30; while, in the European hospitals above quoted, it appears that the largest proportion, or rather more than 32 per cent., were between the ages of 30 and 40; and only 25 per cent. between the ages of 20 and 30.

Though the vice of intemperance may be more common, early in life in this country than in Europe, and may, in part, explain the discrepancy, we are not willing to admit that it is sufficient to account for the whole difference, but believe this is owing, at least in part, to the more early development of the intellectual and moral faculties, which the comparative infancy of the country, the rapid progress in civilization and the useful arts, the nature of our civil institutions, and the physical influence of the climate necessarily call forth.

Most of the cases which occurred before the age of 15, were connected with organic disease of the brain.

Table of Admissions of Married and Single Persons.

Married,	600
Single,	573
Widows and Widowers,	84

It would at first appear that the married is more favourable to the production of insanity than single life; but when we reflect that the larger proportion of persons marry before the age of 30, we are obliged to acknowledge that celibacy has its full share of mental derangement. Our table of married and single patients corresponds, nearly, with that of Esquirol.

	Esquirol.	Bloomingdale.
Married,	$45\frac{1}{2}$ per ct.	$47\frac{3}{4}$ per ct.
Single,	$47\frac{1}{3}$	$45\frac{1}{2}$
Widows and Widowers,	7	$6\frac{2}{3}$

But with the difference, that in the one there is 2 per cent. more of the married, and 2 per cent. less of the single. It is well known that there is a much larger proportion of unmarried persons in France than in America.

Table of Admissions according to Sex.

Date.	Males.	Females.
1821	77	47
1822	66	36
1823	83	48
1824	77	44
1825	102	54
1826	97	45
1827	107	27
1828	86	48
1829	66	25
1830	97	37
1831	102	49
1832	82	36
1833	89	49
1834	67	35
1835	75	63
1836	73	48
	1346	691
		2037 Total.

The very great disparity in the proportion of the sexes admitted, may be accounted for by the fact that intemperance, the most prolific cause of insanity, is a vice much more common among men than among women; and by the belief that people are generally much more willing to trust their male than their female relatives to the care of strangers.

Table of the Professions or Occupations of Persons admitted.

These have been formed from the admissions that took place between the years 1825 and 1836. The occupation, or want of occupation, of 804 was ascertained; and of these but 59 were women: leaving 743 men, concerning whom something definite in this respect was placed on record.

The professions, besides being arranged alphabetically, and according to numbers beginning with the highest, are thrown into classes, for the purpose of showing, as far as may be without certain data, the effects of commerce, of study, of bodily labour, of condition, &c., on the mind.

It may be added, that the patients here enumerated, were not only received from all parts of our own State, but from other States.

Table arranged Alphabetically.

Actress, 1; Apothecaries, 7; Auctioneers, 4; Bakers, 5; Barber, 1; Boatman, 1; Bookbinders, 2; Bookseller, 1; Butchers, 5; Cabinetmakers, Turners, 8; Carpenters, 25; Carriagemakers and Wheelwrights, 6; Cartmen, 6; Chemists, (pract.) 2; Chairmakers, 3; Clergymen, 6; Clerks, 45; Cook, 1; Collector, 1; Convicts (State P.), 11; Consul, 1; Coppersmith, 1; Coopers, 2; Curriers, Leather-Dressers, 16; Dentist, 1; Distillers, 2; Dry Goods' Dealers, 3; Editor, 1; Factory Girls, 2; Farmers, 106; Farm Labourers, 12; Gambler, 1; Gardeners, 2; Gentlemen, 5; Governess, 1; Grocers, 25; Hatters, 5; House-Servants—(Male 1, Female 21), 22; Iron Founders and Smith, 18; Labourers, 35; Lawyers, 20; Light House Keeper, 1; Machinists, 4; Malsters, Brewers, 3; Manufacturers, 6; Market Women, 2; Masons, 11; Merchants, persons engaged in traffic, 89; Milkman, 1; Millers, 2; Nurses, (females), 2; Painters, Glaziers, 8; Papermaker, 1; Pawnbroker, 1; Planters, 2; Pilots, 2; Pedlars, 3; Physicians, 12; Portrait Painter, 1; Potters, 2; Printers, 7; Officers, Army, 3; Officers, Navy, 3; Officer, Customs, 1; Sailmakers, 2; Sea Captains, 16; Seamen, 17; Seamstresses, 29; Shoemakers, Saddlers, 15; Soapmaker, 1; Soldier, 1; Statuary, 1; Students, 19; Tailors, 19; Tavernkeepers, 12; Teachers, 10; Tinworkers, 2; Tobacconist, 1; Upholsterers, 4; Watchmakers, Jewellers, Silversmiths, 5; Weavers, 4; White-lead workers, 3; No occupation, 54.—Total, 804.

All the different occupations found on record amount to 82, variously distributed among 804 patients, including 54 who are distinctly put down as having no profession. Of the 82 different occupations, 35 (considerably less than one-half) furnish 663, or nearly five-sixths of all the cases of insanity. If the 54 mentioned as having no occupation be taken from the whole number, then the 35 professions furnish seven-eighths, while the remaining 47 give but one-eighth of all the instances of insanity enumerated above. Taking these as data, does insanity fall proportionably on persons engaged in the various pursuits of life? or do these operate as predisposing or exciting causes?

Table of Professions, Occupations, and Condition, that furnish the largest number of Insane, arranged according to Plurality.

Farmers, 106; Merchants, Traders, 89; Clerks, 45; Labourers, 35; Seamstresses, 29; Carpenters, 25; Grocers, 25; House Servants, 22; Lawyers, 20; Tailors, 19; Students, 19; Iron Founders, Smiths, 18; Seamen, 17; Sea Captains, 16; Curriers, Leather Dressers, 16; Shoemakers, Saddlers, 15; Farm Labourers, 12; Physicians, 12; Tavern keepers, 12; State P. Convicts, 11; Masons, 11; Teachers, 10; Cabinetmakers, Turners, 8; Painters, Glaziers, 8; Apothecaries, 7; Printers, 7; Carriagemakers, Wheelwrights, 6; Cartmen, 6; Clergymen, 6; Manufacturers, 6; Bakers, 5; Butchers, 5; Gentlemen, 5; Hatters, 5; Watchmakers, Jewellers, Silversmiths, 5.—Total, 663.

It is evident, from an inspection of these tables, that the classes most subject to insanity, are those which are connected, either directly or indirectly, with commerce, and dependent upon it for a livelihood. This, of course, comprehends persons of a great variety of professions, besides many who are only secondarily affected by the chances and changes of the times.

Of 804 persons whose occupations were ascertained, 242, making about 30$\frac{1}{10}$ per cent. were dependent on commerce.

The producing classes, including farmers, mechanics, labourers, &c., and making up the great bulk of inhabitants, furnish 395 out of 804 cases of insanity, or 49$\frac{1}{8}$ per cent. Of these the workers of the soil, including 106 farmers, 12 farm labourers, 2 planters, and 2 gardeners, amount to 122, or rising 13$\frac{1}{2}$ per cent.; and mechanics to 206, or rather more than 23 per cent. of the whole number of vocations ascertained.

Persons of studious habits, including the learned professions, and amounting to 67, form about eight and one-third per cent. of the whole number, leaving but twelve and one-half per cent. from all the occupations not embraced in the above classes.

To ascertain the influence of certain trades, or the prevalence of insanity in particular classes, it will be necessary to compare the numbers arranged as above, with the numbers belonging to the different trades and classes as found actually existing in the community. In Williams's Register for 1834, is a classification of the citizens of New York. This, though not including many unmarried persons, and others in humble life, because they do not rent tenements, and of course, entirely excluding the occupations of rural districts, furnishes the only data for comparison that we can find. We have, therefore, taken a few of such, as from their occupations, must necessarily rent houses or offices, or from other circumstances, have a place in the Directory, and compared them with the corresponding professions found in our tables. It is to be regretted that the few and imperfect data do not allow us to procure results in many trades and pursuits, (in the sedentary mechanical occupations for example,) in which such would be interesting. It will be borne in mind, that the per cent. here obtained is not so much per annum; it only expresses the comparative liability of the different classes to insanity.

2260	Merchants and Traders,	89	in our Table, making nearly	4 per cent.
2106	Grocers,	25		$1\frac{1}{5}$
94	Auctioneers,	4		$4\frac{1}{4}$
209	Apothecaries and Druggists,	7	upwards of	$3\frac{1}{2}$
142	Booksellers and Stationers,	1	about	$\frac{2}{3}$
550	Dry Goods dealers,	3	little more than	$\frac{1}{2}$
249	Tavern and Hotel Keepers,	12		$4\frac{4}{5}$
82	Tobacconists,	1		$1\frac{1}{6}$
573	Lawyers,	20		$3\frac{1}{2}$
499	Physicians,		upwards of	$2\frac{1}{2}$
284	Teachers,	10		$3\frac{1}{2}$

Without knowing the actual number of persons engaged in those occupations that expose their followers to the inhalation of deleterious gases, there appears to be a very large proportion of such on our list. Including two practical chemists, eight painters, one manufacturer of soap containing prussic acid, and three white-lead workers, there are not less than fourteen.

Not supposing that there is any inhalation of poisonous air, the same remark may be made of the number of curriers and tanners, for surely sixteen of this trade must be a very large proportion.

Tables of Causes.

In arranging the Tables of Causes, the usual division into physical and moral has been adopted.

I. PHYSICAL CAUSES.

Hereditary, 155; Cerebral disease connected with apoplexy, palsy, and epilepsy, 55; Bodily disorder, 48; Following parturition, 43; Constitutional, 34; Succeeding fever, 31; Functional and structural disease of uterus, 20; Masturbation, 16; Injury of the head, 15; Congenital, 13; Rapid growth, unequal and sudden development of body occurring at the age of puberty, 13; Metastasis, 9; Cessation of menses, 8; Insolation, 6; Smallpox, Measles, and Scarlatina, 6; Suppression of established discharges, 5; Acetate of lead in cider, and fumes of white lead, 5; Connected with lactation, 4; Succeeding repelled eruptions, 4; Syphilis and mercury, 3; Old age, 2; Spinal disease, 2; Pregnancy, 2; Sedentary life, 2; Excessive use of Tobacco, 2; Hygiene pills, 2; Suddenly checked perspiration, 2; Change of climate, habits, &c., 2; Excess in venery, 1; Inhalation of prussic acid, 1.—Total of physical causes, 511.

II. MORAL CAUSES.

Pecuniary embarrassments, disappointments, and losses, 59; Religious excitement, 40; Domestic trouble, 31; Over-exertion and abstraction of mind, 26; Grief for loss of relatives, 23; Unrequited love, 20; Unhappy marriage, 17; Anxiety of mind, 17; Wounded pride and disappointed ambition, 13; Religious anxiety, doubt, and despondency, 12; Remorse, 13; Terror, 9; Avarice, 8; Religious terror, 7; Defective mental and moral education, 6; Sudden reverse of fortune, 3; Sudden prosperity, 3; Indulgence of violent temper, 3; Excessive novel reading, 3; Want of employment, 4; Jealousy, 2; Loss of office, 2; Indulgence in speculation, 2; Political excitement, 2; Anti-masonic excitement, 2; Ungratified desire to return to native land, 1; Excess of joy, 1; Desertion after seduction, 1; Indulgence in theatrical amusements, 1.—Total of moral causes, 322.—Total of physical and moral causes, 843.

When we look over our extensive country, and consider its immense progress in civilization, wealth, and luxury; the varied and increasing temptations to embark in the wildest schemes of speculation; the sudden accumulation and loss of fortune; the fluctuations of trade; the interest taken by almost every citizen, in every political and financial movement that agitates the community; the activity of mind every where apparent; the fierce strifes of the predominating passions of ambition and avarice involving so many minor ones, and extending their influence throughout every class of society; we are compelled to believe that we have among us as many active causes of insanity as any country in Christendom.

If the few States which have made returns of their insane, be taken as a standard for the whole, and if European statistics of insanity can be relied on, facts go to show, that the proportion of lunatics to the whole population, is greater in America than in Europe. But we believe, that European statistics of insanity cannot be relied on. The only country in which a regular systematic plan of enumeration has been adopted, is Norway, where the proportion of lunatics and idiots, is *one* to every 551 inhabitants, a proportion considerably greater than exists in this country.

In the other countries of that hemisphere, the sources of information on this subject are partial and imperfect, being generally no other than hospitals, and public and private institutions; so that the large number of lunatics living at home and in private families, is not taken into account.

It yet remains for us to learn, whether insanity is more common in Europe or America, whether the infancy or old age of a nation is most productive of mental disorder. This is, indeed, a singular inquiry, and it is hoped that, in the next* general census, measures will be taken to ascertain the number of lunatics and idiots.

It will also be important to learn how far diversity of climate, the various habits of the people in different sections of the country, and the institution of slavery, affect the mind.

We have no data upon which to form a correct opinion *as* to the prevalence of insanity among the aborigines. If it be possible to extend the census among these, some interesting results may doubtless be procured on various subjects.

On taking a general survey of the above tables, the first thing that arrests the attention is the great majority of physical over moral causes. If, however, we subtract from the former, the large amount of causes entitled hereditary, the excess of physical† causes will be reduced from one hundred and seventy-nine to twenty-four. Still the results of the Bloomingdale tables differ so widely from those of some of the tables of Salpêtrière and Charenton, published by Pinel and Esquirol, that we are induced to enter into an examination of the causes of this difference.

It may be premised that the registry of the causes of insanity was made at Bloomingdale without reference to theory or preconceived opinions; but it must be confessed, with some skepticism as to the preponderance of moral causes set forth in some of the French reports. Who that has followed the physician, in his daily visits through the wards of a French hospital, has not been struck with the large number of cases of purely physical disease, ascribed by the sufferers to moral causes—to "*chagrin?*" Taking the statements of patients and friends then, is it not probable that insanity is often improperly imputed to moral causes? And in large establishments, like those of the Salpêtrière and Bicêtre, where so many patients are admitted, and where so little can be learned of the history of each case, the physician is obliged to rely for "cause" on the vague statements of unprofessional relatives, or the still more vague accounts of entire strangers,—

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* Since this paper was read, the writer has succeeded, through the exertions of Mr. Curtis, Member of Congress from New York, in procuring the amendment of the bill for taking the census of the United States, so as to include lunatics and idiots.

† In the following calculations it may be repeated that intemperance, the most prolific of all causes, has been omitted. As nearly as can be ascertained it has been the cause of nearly one-quarter of the cases admitted.

of an officer of the police, for instance, or of some individual who may not have seen the patient till an hour before. Persons not belonging to the medical profession are too apt to impute insanity to causes acting solely on our immaterial nature, and for no other reason than that they conceive there must be an analogy between cause and effect. These, without reflection, give as "cause," any disappointment or excitement, however trivial, or however often it may have occurred in the same individual without leaving the least mental disorder. Relying on such vague statements, physicians too often, it may be supposed, overlook the real or most important cause, which may lie hid in some organ or system, and may have been a long time acting insidiously ; and mistake the first effect or symptom of insanity for its cause. Thus it is very common to say, that the insanity of a patient whose mind dwells on religious subjects, has been caused by religion, when, in fact, his unreasonable or incoherent ravings on this topic, are merely the effect of mental disorder. Without denying that erroneous views of religion, particularly in its most sombre and threatening shape—of religion in which the feelings only are enlisted, and the depressing passions elicited, sometimes, and perhaps not unfrequently, cause insanity,—we believe that the majority of cases attributed to this class of causes, are produced by bodily disorder.

In a country like this, where so much attention is paid, early in life, to moral and religious culture, what can be more natural, when mental disorder arises, either from moral or physical causes, than that the ideas which made the earliest and strongest impression should be most prominent? This mode of mental operation accords with the common observation of the effects of diseases and injuries of the brain.

The alienation of affection from its natural and long-cherished objects, is perhaps the most uniform symptom of insanity ; yet no one thinks of imputing insanity, in most cases, to attachment of friends, to the love of a mother for her offspring, or the devotion of a child to his parent. Another cause having disordered the mind, perversion of feeling occurs as a symptom. Thus it is, in many cases, termed religious insanity.

Other forms of insanity, as those connected with the puerperal state, and those depending on disorder of the abdominal viscera, both of which are often characterized by delusions on the subject of religion, and on that of domestic relations, may also be cited as instances in which the cause is overlooked, and the disease ascribed to one of its symptoms.

The results of our tables then, differing as they do from those of Salpêtrière and Charenton, we would mainly ascribe to the better opportunities of inquiry which the comparatively limited number of admissions at Bloomingdale has given us.

It is generally supposed that in this malady there is uniform similarity between cause and effect—that the disease being apparent, the cause may, with certainty or probability, be deduced ; or that the cause having occurred, the effect may be predicted. Thus it would be expected that the loss of property, or misfortune, would cause melancholy ; and sudden access of fortune, joyousness ; but the contrary is, not unfrequently, the fact. Numerous instances in support of this might be cited. One of the most remarkable cases of insanity at present in the Bloomingdale Asylum, is that of a merchant, who, after failure and the loss of all his property, became deranged. He now considers himself, as he always has done since the occurrence of insanity, the richest man in the world ; and, as far as belief in the possession of wealth can give him an imaginary importance and make him happy, is one of the most enviable of men.

Like causes then, occurring in different individuals, must not be expected to produce like effects ; for these will be modified by peculiarities of mind, temperament, and organization.

TOBACCO SMOKING.*

The description of the evils from the use of Tobacco in England applies so accurately to the state of things in this country that we insert without alteration, and in full belief of their accuracy, the strictures of the Literary Gazette on this subject.—*Ed. Eclec. Journ.*

Tobacco, as a source of revenue, may well succeed to our notice after the *Tea*-total affair, from Dr. Sigmond, which illustrated our No. 1177. In no other way can we afford it similar countenance; for we look upon it as being as unnecessary as the latter is now necessary, as nasty as the latter is cleanly, as offensive as the latter is innocuous. A more disagreeable nuisance than a young shopboy smoking a cigar does not infest the streets of London. An Irish market-woman, or a hodman with a dudheen, is tolerable; but to see the whelps, who make the air noisome almost wherever you go in and about the metropolis, is indeed an offence of mental and physical bile to the beholder.

Their faces are generally of a lightish dun, smoke colour; their mouths, pursed up like monkeys munching soft apples; their eyes, bleary and dissipated; their nostrils, as it were, disgusted with their mouths, and having a nightman twist and expression; their air, most impertinent; and their whole puppy, at once ridiculous and provocative to kicking. We do not mention their continual and filthy squirts of expectoration, as they take the stinking roll of weeds from their dirty lips, and tip off the burnt ashes with an amusing consequence, and staring about with a vacant stolidity; for, really, the picture is altogether so revolting, that even its grotesque absurdity fails to excite the laugh of contempt; and we cannot but pity the poor creatures, with their snivelling, turnip-built countenances, whilst we are annoyed by their apish practice.

Mr. Joseph Fume (which pronounced quickly sounds very like Mr. Joseph Hume) is, we presume, an assumed name; and we are the more confirmed in this suspicion by not knowing any family so called, or being able to find it in the Directory or Red Book! But, be the writer who he may, and with all our objections to the subject, the little volume is an amusing one, and contains much popular information about tobacco; a few indelicacies are the only drawback we have to allege against Mr. Fume's performance.

He sets out with an account of the origin and introduction, derivation and appellation, of the production in question, stating (from Oviedo's "Historia General de las Indias," edit. 1535) that "it appears that tabaco was the name given by the Indians to the tube with which they used to inhale the smoke, and that certain persons erroneously supposed that this was the name of the herb, or of the stupor consequent on the Indian mode of using it. From the light afforded by Oviedo, it is not difficult to trace the different meanings of the word: the expression tomar tabaco,—literally, 'to take a pipe,'—was used to signify the practice of smoking; and subsequently the name tabaco was transferred from the tube or pipe to the herb. The tobacco plant was known by several names to the native inhabitants of America. In Mexico it was called piecelt; in Brazil, petun; in Hispaniola, cohiba; and in other islands, yoli. The potato, which we also owe to America, was not so generally known in the New World, when it was first explored by Europeans, as tobacco: the natives of Mexico and the Antilles were accustomed to smoke the 'fascinating weed' long before they were acquainted with the use of the 'prolific root.' The Indians of the continent, as well as those of Hispaniola, esteemed tobacco as a 'sacred thing.'"

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* A Paper:—Of Tobacco; treating of the Rise, Progress, Pleasure, and Advantages, of Smoking; with Anecdotes, &c. By Joseph Fume. 12mo. pp. 165. London, 1839. Chapman and Hall.

And it is added :—

"It may be worth while to remark here, that the Pythia, or priestess of Apollo at Delphi, was inspired, or excited to a state of frenzy, by a vapour, before she delivered her oracular responses. Both Indians and Greeks, it seems, required to be stupified before they could receive a knowledge of future events."

This, we think, completely proves how uncalled-for the practice is in England; for, our Bœotians being already the stupidest of created animals, not excepting superannuated donkeys, it is a work of extreme supererogation in them to swallow tobacco vapour to increase their stupidity; and as for imparting to them a glimpse of futurity, the sottish-looking drivellers are not able to comprehend what they are about at the time present, when they are beclouding themselves with puffs of inodorous fumigation.

But, independently of the folly and uselessness of smoking in our climate and with our habits, there is a still more serious consideration attached to the excess to which it is carried, and especially by the young in various employments, and by the poorer classes of the people. It is an expensive indulgence; and an honest shopboy, an apprentice to a trade, an ill-paid attorney's clerk, and multitudes in many similar walks of life, cannot afford it. The two or three cigars a-day, not to speak of their attendant tippling, are a heavy cost to such persons; and we firmly believe that a large proportion of the minor crimes committed in London and other populous places, owe their perpetration to the paltry exhibition of smoking. Thieving, robbing masters, breaches of trust, petty swindling, discontent, lying, idling, keeping bad company, resorting to demoralising haunts, are all the notorious fruits of this pernicious habit; and the cells of Clerkenwell, Horsemonger Lane, Cold Bath Fields, and Newgate, contain hundreds of ruined witnesses to the truth of our statement, that most evil propensities and most guilty results have begun in procuring means to purchase the daily dole of tobacco, or of the deleterious stuff manufactured and sold under that name. Even Chartism, in many the offspring of poverty and discontentedness, may be traced in a considerable degree, to this original cause.

But we shall quit grave reasoning, and return to our author. After giving a good historical notice of the olden times of Raleigh, &c., &c., he tells us :—

"The great plague in London, 1665, tended materially to confirm and extend the custom of smoking among the citizens, in consequence of certain doctors having asserted that the use of tobacco was good against the infection. It was also currently reported that the families of tobacconists had generally escaped the contagion. Tobacco might now be said to have been made free of the city: at the annual dinners of the different companies it was indispensable; and there is reason to believe that pipes and tobacco were served at lord mayors' feasts.* Unfortunately no artist has transmitted to us a view of the interior of Guildhall, with five hundred citizens 'all alive and smoking,' on the evening of lord mayors' day."

In the polite mayoralty of Lord Wilson, how we may rejoice that wheresoever else the contagion has spread, it has been banished from the Mansion-house, the Guildhall, and the city barges and cutters. There is one green spot (not green fat of turtle spot) for recreation where the odious stench of tobacco is not allowed to intrude. In the city, not far from *Spittlefields*, and near to *Smoke* Alley, true gentility has taken up its abode; and the chief magistrate will hardly permit north-country coals, far less Orinoco, to be burnt within bounds of his sovereignty. He feels that manners make the man; and the very apparel of our respectable resident citizens shows that they are not of the flash class (those, the city flash class, generally reside out of town, and are sad objects in their "bang-up" orbits) who, if they cannot lard the lean earth, at least can poison the pure air, and are thus described :—

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* "'You are sensible that children smoke more now-adays than even soldiers and carmen did heretofore; and that more of this nasty stuff is spent at a beastly city feast than would have served the whole kingdom formerly.'—*The Reasons of Mr. Bay's changing his Religion.*"

"Gentlemen [Gentlemen ! ! ?], whether civil or military, who wear moustaches, are nearly all cigar-smokers; and it has been ascertained by a pains-taking member of the Statistical Society, that out of every ten gentlemen who wear Macintoshes, nine, on an average, smoke cigars. Shipping-clerks, custom-house agents, and Mincing-lane brokers, are great consumers of tobacco in this form."

Moustaches which may be bought at from fourpence to half-a-crown a pair, in the little barbers' back shops in back streets; blouses, cheap and nasty, shapeless and sheepstealing in outward appearance; dirty hair and hands, the worst appurtenances of the tribe of Benjamin; and cigars polluting the circumambient atmosphere, are indeed the characteristics of these would-be *gentlemen !* Only look at "the criturs;" the last pilfered sixpence, perhaps, thus consuming: truly tobacco may in such instances be called "the anodyne of poverty;" and this might be some excuse for it, were it not also too frequently the cause as well as the cure, and the anodyne of thievery more than of beggary.

"Shame (says our author) on those who would harshly deprive the hard-working labourer of this indulgence! Sleek, well-fed, capon-rumped Quakers, who know not what toil is, are in particular opposed to the 'idle and wasteful habit' of smoking and chewing, so much indulged in by the poor. Let such over-fed, over-righteous 'Friends,' take for a while the place of some of our hard-working fellow-countrymen, and at eve, when their bones are aching with toil, and their minds incapable of exertion through bodily fatigue, let them, if they can, find solace 'in the inward light of the Spirit.' Let Obadiah take a few days' exercise at ploughing, mowing, or reaping; breaking stones on the highway, or steel at Sheffield; at coal-heaving on the Thames, or ballast-casting on the Tyne; let him serve the bricklayers for a month, or turn stoker to a steam-boat for the same period; do a foremast-man's duty in a voyage to Archangel or Quebec; and, when he has tried any of these, he perhaps will be able to estimate the value of tobacco, in diminishing the sense of weariness, and of enabling the workingman to go quietly to bed without wishing that 'chaos were come again.' Were 'Friends' practically acquainted with the beneficial effects of smoking, in checking incipient mental disease, it is probable that the Retreat, near York, would not contain so many inmates; for, notwithstanding the much-vaunted excellences of the Quaker mode of life, proportionably more persons of this sect become insane than of any other denomination of Christians in the United Kingdom."

What the Society of Friends have done to provoke this diatribe we know not; but we do know that they are about the cleanest class of people, both in person and dress, which can be found in Great Britain. And, perhaps, they may think with us, that a wholesome penny roll and a glass of sound beer would be better for "the hard-working labourer" than the whiff of a noxious, stupifying weed, destitute of nourishment and sustenance; or that a pound of juicy mutton was worth more to the poor than half-a-dozen pipes of short-cut or even a real (*i.e.*, imposition) Havana cigar! But Mr. Fume has stronger reasons to urge in favour of short cut.

"There is not (he declares) an instance on record of a person, however suicidal his thoughts might be when filling his pipe, proceeding to carry his intentions into effect immediately after he had smoked it out." Oh! wonderful discovery, if true, though how ascertained we cannot surmise; that if you contemplate cutting your wizzard all the time you are replenishing your "yard of clay" with shag, if you only take time to smoke it out, away flies your shagrine; instead of stopping your breath, you resolve at all risks to puff on; and as for separating your windpipe, you look forward to nothing so much as treating it with the companionship of a few pipes of tobacco every day, till your body is dried up and your fire is extinguished. Therefore be it granted, as the best argument in the case, that whilst you are smoking *pig-tail*, you are not likely to be committing *sui*cide!!

Come we now, however, to statistics:—

"In the United States, with a population of about 16,000,000 souls, Nigger, Yankee, and Indian, the annual consumption of tobacco is about 108,000,000 pounds, which is at the rate of nearly seven pounds for every man, woman and child:" No time for self-murder among them! And Mr. Fume gets sentimental:

"A pipe of tobacco, or a cigar, after a day's hard exercise, whether mental or bodily, and after the cravings of hunger and thirst are appeased, may be fairly ranked amongst the most delightful and most harmless of all earthly luxuries. It fills the mind with pleasing visions, and the heart with kindly feelings. A hard-working labourer, smoking by the side of his hearth at night, presents a perfect picture of quiet enjoyment. I see him now in my mind's eye. He is seated in an old high-backed, cushionless arm-chair; but an easy one, nevertheless, to him who, from dawn till sunset, has been engaged in ploughing, threshing, ditching, or mowing. With one leg thrown over the other he quietly reclines backward, and with an expression of perfect mental composure, he gazes on the smoke that ascends from his pipe. There is a sentiment-exciting power in the smoke of tobacco when perceived by the eye, as well as a pleasing, sedative effect when inhaled; and those smokers who have any doubt of the fact should take a pipe with their eyes closed."

What a picture of rustic felicity, the hard, high-backed, easy chair; the leg crossed over, the sweet reclining as he eyes his pipe and does not pipe his eye! One of the embellishments represents this happy English labourer closing his peepers in the most doltish indifference, neither quite asleep nor quite awake, his dog is at his feet longing for a whiff, his wife is washing something in a hand-basin, and looking at him with unutterable tenderness—the softened Juno of this cloud-compelling Jove—and the fire is burning bright, and there is an air of comfort about the whole apartment which seems to say, 'I can well afford to smoke myself and to smoke bacon.' Would it were so in the cottage of every hedger, ditcher, thresher, reaper, and mower in the country! But alas! it is but a bottle of smoke. And if we were content to admit the harmless pipe at home, is that any reason why we should be suffocated with it in the crowded streets, be pestered with it on coaches and in steamers, and not even be able to enjoy a stroll in a sweet pastoral grove or lane without having the wholesome freshness destroyed by some of these locomotive human engines who are nuisances wherever they go? Not so in the opinion of our author, who declares—

"There is nothing like a cigar for whiling away the tedium of travelling; to my fancy a real Havana never smokes so pleasantly as on a coach-top, or the deck of a ship, more particularly towards evening, when odours are most powerful, and the mind, perchance excited by the 'dying day's decay,' reverts most forcibly to the thoughts of absent friends."

Nevertheless he adds—

"Tailors' trotters, young medical students, 'walking the hospitals' till duly licensed to kill, haunters of low billiard-rooms and sixpenny hells, raffish swaggerers in saloons, and pawnbrokers' shopmen, are generally fond of smoking their cigars in the street: not, indeed, from any pleasure which it affords them, but from an opinion that it gives them a 'buckish air.' The sight of a slim, tallow-faced young man, with a dirty shirt and a a pair of drills to match, looking as if he were about to puke when he takes his cigar out of his mouth to spit, as he struts along Piccadilly or the Strand, is almost enough to excite the risible muscles of a cabman's horse, and to act sympathetically as an emetic on the stomach of a decent Christian. In foggy weather, between eleven at night and two in the morning, a gentleman returning from the theatre or a social party may smoke a cigar without committing any breach of good manners."

Thus he goes on to excuse the sins he is inclined to by d—ing those he has no mind to.

"The man who considers such a state of mind as an enjoyment, and who knowingly tries to induce it by continued smoking, may be justly denominated a tobacco sot, whether he wears a big wig, or a pair of patched corduroy smalls. When the custom of smoking is indulged in to such an extent as to prevent a man from efficiently discharging his duties, instead of being an innocent recreation, it becomes a detestable vice. The man who cannot restrain his passion for tobacco even for half a day, but must have his pipe wherever he goes, though the smoke may be offensive to the majority of the company to whom he is introduced, is a positive nuisance to society. The proper place for such a person to enjoy himself in would be a tap-room in Wapping, where smoking is allowed at all hours of the day."

And then the posthumous smell, the stale stench cf the next morning on clothes and person, enough to make a hog sick—these are among the pleasurable essences of tobacco-smoking, with which the smoker affronts all decent society.

DISEASES OF THE SPINE.*

Mr. Thomson began by repeating some of the most important statements in the preceding lecture.† The neglect of physical education he considered to be the principal cause of lateral curvature. This neglect could not be considered as exclusively the fault of the proprietors and superintendents of our school establishments. The course of Mr. Thomson's practice had demonstrated to him the fact that the fault is attributable to the parents chiefly, or more properly, perhaps, to the spirit of the age.

He (Mr. Thomson) not only found lateral curvature very common amongst those who generally sent their children to boarding schools, but equally in the families of the nobility, whose offspring were trained entirely under the parents' roof. Amongst all these classes there was such an insatiable desire for precocious accomplishments that health was sacrificed in the pursuit. At the early age of ten years young girls were immured for five-sixths of their time in close rooms, and occupied in a succession of sedentary studies, for the acquisition of the modern languages, of drawing, music, &c. During the above-mentioned period the muscular system was entirely neglected, and constrained positions infallibly led to deformity.

The proximate cause of lateral curvature consisted in debility of the muscles, and relaxation of the ligaments of the spinal column. The rapidity was remarkable with which this deviation from symmetry was effected on some occasions. Mr. Thomson in proof of this fact in the natural history of the malady, related the case of a gentleman's daughter, whom he had under his care. This young lady was about sixteen years of age when she was attacked with a severe form of scarlet fever. In two months after the exacerbation of the fever, it was discovered that she had contracted a considerable spinal curvature.

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* Substance of a Clinical Lecture on the Curvature of the Spine. By Frederick Hale Thomson, Esq., Assistant-Surgeon of the Westminster Hospital. Delivered, Wednesday, June 26, 1839.

† See Eclectic Journal, Vol. III., p. 449-53.

In recent works lateral curvature of the spine had been ascribed to various pathological causes. Mr. Bampfield (whose work on these affections was very excellent, and who had been properly rewarded with the Fothergillian medal) entertained an idea that the disease was caused by a particular morbid state of the muscular fibres; he had not, however, adduced any satisfactory proof of the correctness of his views. Mr. Thomson's experience had led him to think that the flaccid condition of the muscles was due to an atrophied state of the fibres, brought on by want of exercise. He (Mr. Thomson) was willing, in all cases, to yield to facts, but he could not succumb to mere hypothesis, however ingeniously maintained. Dr. Harrison's opinion was that the cause of spinal deformity consisted in a peculiar disease of the ligaments, but he produced no pathological foundation for his theory. The true mode of investigation was to observe facts, and then to generalise with caution. Mr. Thomson said he had endeavoured to pursue this mode of inquiry. He had found little satisfactory information on this subject in books; he had, consequently, privately studied cases, and from a consideration of a long series of these his views had been carefully formed.

There were three stages observable in the course of spinal curvature. The first stage was not very easily distinguished, and therefore had been overlooked by medical men. It was evidenced by a slight curvature of the lumbar and lower dorsal vertebræ. In the second stage the upper dorsal vertebra became implicated; and in the third stage a curve was rendered visible in the cervical portion of the spine.

Mr. Thomson repeated his injunction respecting the observation of great caution in examining patients supposed to be affected with the first stage of the malady. When the affection was slight it was very liable to be entirely overlooked. This curvature might be apparently removed by three methods: either by the patient bending his body in an opposite direction to the affected side, during which inclination the curvature could not be readily distinguished;—by the exercise of such a degree of muscular exertion in the patient as was necessary to raise his arm above his head (an attitude frequently chosen by medical men, as wrongly supposed to be the best adapted for showing the form of the spine);—or by the forcible endeavour of the patient to keep his body in its natural erect position. But these plans were only sources of fallacy.

Mr. Thomson's method is to place the patient upright, with the arms hanging close to the side, like the position assumed by the soldier whilst standing in the ranks. In this attitude the spinal column is seen to the best advantage. With respect to the therapeutics of this stage of the affection, the profession very generally entertained, and often promulgated, an erroneous opinion. When a child whose lumbar vertebræ were curved, was brought to a medical man, the opinion generally given was, that as the patient grew, the deformity would be removed. But this was an error of very serious consequence. The parent was lulled into a false security; a year probably was lost, and at the end of the period the curvature was found to be very much increased. In that time the upper dorsal vertebræ would have become involved in the distortion, and therefore a much longer course of treatment would be required for the restoration of the patient to the natural state. Mr. Thomson is of opinion that little or no change of structure occurs during the first stage of lateral curvature. In the second stage some absorption of the bone and intervertebral substance on the concave side of the curve is evident; and in the third stage, considerable interstitial absorption occurs. This is a circumstance which materially retards the cure.

The sympathetic affections of the heart, of the lungs, of the chylopoietic, and assistant chylopoietic viscera, are to be met by palliative measures. As the curvature, which is their exciting cause, is removed, they gradually disappear. That such symptomatic disorders should arise is a fact that would excite no surprise when the diminution in the size of the nerves issuing at the concave side of the spine was recollected. This diminution frequently occurred to one-third of their calibre, and was almost always attended with severe constitutional derangement. This reduction in the size of the nerves was not imaginary, the fact had been attested by the late Mr. Shaw and the late Mr. Wilson.

Mr. Thomson, also, had often observed the fact himself. The lecturer had attended, in company with Dr. Billing, a case of lateral curvature, in which all the symptoms of disease of the heart were present. In fact, the patient had been treated for that malady. Under the superintendence of Mr. Thomson, and his colleague, the patient was managed according to the usual plan adopted for simple curvature; and the symptoms of disease of the heart disappeared. This was a case which exemplified the necessity of observing great care in the diagnosis of this class of affections, as serious errors might be committed, involving the welfare of the patient and the reputation of the practitioner. Mr. Thomson now repeated what he had said on a former occasion, touching the possibility of carelessly mistaking an unusually large though normal development of one or more of the spinal processes for disease. The muscles of one side are found to be, generally, much increased in size, as well as thrown into relief by the atrophied state of the antagonist muscles. The longissimi dorsi and sacro-lumbalis, in particular, are often very much hypertrophied; and Mr. Shaw has related an instance in which a medical man mistook this enlargement of the sacro-lumbalis for a tumour, and actually proposed opening it. Mr. Thomson had himself known occasions in which similar errors of diagnosis had been committed, though not to an equal degree of absurdity. The practice of employing spine-supports, so commonly adopted by the empirics, had a tendency to aggravate this unequal development of the muscles. An antagonism was by this means supplied to the hypertrophied muscles, which provoked them to augmented action, and the atrophied muscles were reduced to a state of perfect quiescence by all opportunity for action being removed. Occasionally examples of spinal curvature arose from the unequal action of the muscles of the trunk produced by deformity of the lower limbs. In cases of club-foot, of hip disease, or of any malformation leading to curtation of the limb, the influence which the efforts of the patient at progression exercised on the spine and its motor apparatus would be obvious to the most superficial observer. The spine would be curved towards the side opposite to the affected limb, and certain muscles would be called into action in preference to others. Hence the deformity of the vertebral pile would be gradually augmented and confirmed.

Mr. Thomson expressed an opinion hostile to the employment of the high-heeled shoe so frequently resorted to in these cases, as he considered it tended more to the confirmation than the removal of the malady. A deceptive appearance, the lecturer stated, of shortened limb, is sometimes occasioned by the obliquity of the pelvis consequent upon spinal curvature; but a very little attention will obviate the possibility of this circumstance leading to error of judgment. It is evident that this obliquity, by throwing down the acetabulum of one side, will give to one leg the appearance of being longer than the other. The constrained position imposed upon the female children of the upper classes at an early age, Mr. Thomson repeated, was the fruitful parent of these deformities. A child was made to sit upright, probably on a stool, without support; whilst under the care of the mother or governess the forced position was maintained, but the instant the watchful eye was removed, the child would yield to the sense of fatigue, and loll to one side. When the attention of the superintendent was again directed to the child, it would vigorously exert the muscles of the opposite side to restore itself to the upright posture. This alternate bending of the spine and strong contraction of the opponent muscles being frequently repeated, produces its inevitable effects upon the bones, ligaments and muscular system, and lateral curvature is the melancholy result.

With a view to the adoption of a rational and successful plan of treatment for spinal distortion, it is necessary to obtain an accurate history of the various predisposing and exciting causes bearing upon each particular case. The highly sedentary occupation of girls, as compared with the more active employment of boys, and the characteristic results of each of their modes of life, point out clearly one source of the evil, which, of course, must be religiously avoided in every plan of treatment. Tight-lacing, back-boards, and all mechanical restraints, must also be repudiated. To determine the age at which the treatment of spinal deformity is most effective, is an interesting point of inquiry. Mr. Thomson feels no hesitation in saying that the growing age is the period during which the human frame is most plastic, and consequently, most impressible by the media which are employed in the reduction of curvatures. But though the treatment of deformities is much more facile at this tender age than at a more advanced period, Mr. Thomson is far from saying that the plasticity of the constitution, as regards this branch of therapeutics ceases with the growth of the patient. On the contrary, Mr. Thomson has had several cases under his care in which, at as late an age as thirty, the deformity has been removed by myological treatment. He narrated the particulars of one case of especial interest. It was that of a lady, twenty-eight years of age, in whom great curvature was removed after an assiduous treatment of four years. At a later period of life than that stated Mr. Thomson thinks that, in general, the remedial course cannot be carried on with any certainty of success. When a patient afflicted with the disease just described is brought to a medical man (said Mr. Thomson) the predisposing and exciting causes are to be minutely inquired into. Excessive mental labour, constrained posture, tight zones, &c., are to be firmly proscribed. The patient must be allowed freely to exercise herself in the open air, and to indulge in the exhilaration which the rapid respiration attendant upon free muscular motion induces. The physical education of the child must bear a due proportion to the moral and intellectual education.

Mr. Thomson stated that a principle promulgated by the late Mr. Shaw, and afterwards adopted and warmly recommended by Sir Charles Bell, that the exercise of an organ is necessary for its preservation, has been too severely criticised. It had been asked what became of the organs of bed-ridden patients, of indolent, tea-drinking old women, &c.? Now it is clear that Mr. Shaw had in his mind the human frame in its growing state, whilst he was dwelling on the important physiological principle he had broached. With this qualification Mr. Thomson perfectly concurred in opinion with Sir Charles Bell and Mr. Shaw. This principle, in short, formed the basis of his (Mr. Thomson's) myological system of treatment.

After insisting upon the negation of all injurious practices, the practitioner should proceed to the positive part of the treatment. The first muscles to be put in action are the primary and accessory muscles of respiration. The patient should be placed with her arms resting on a bar, raised a little above her head, and be required to make repeated voluntary inspirations and aspirations; but this process should not be carried on so as to excite any inconvenience or fatigue. Twenty respirations are probably as much as the patient could bear at first. These exercitations, however, must be repeated until the full dilatory powers of the chest are restored; for it is a fact, well worthy of note, that in all lateral curvatures there is a restriction of the dilatation of the chest. A free expansive power being attained, the patient should next be employed in turning a wheel, placed on the atrophied side of the body; she should stand in the same place always, and move her trunk backward and forward with the progress of the wheel, but without altering the position of the legs; by these means the inferior curvature will be overcome.

To act upon the superior curvature, Mr. Thomson places the patient in such a position as to have a support against the knees, and another against the sacrum. A cap is then placed on the head, to the front of which is affixed a horizontal pulley, having a regulated weight appended. The patient is to exercise herself in moving her head backwards on the spine. This exercise, steadily persevered in, has always succeeded in removing the cervical curve. In all these exercises it is to be especially borne in mind, that the patient is never to be fatigued. If this principle be not attended to evil consequences will ensue. Laying down in various positions upon a suitably inclined plane, after exertion of every kind, should be strictly enjoined in cases of lateral curvature. This is especially requisite during the after-part of the day. A firm hair mattrass should be used at night; and the suggestion of Mr. Baynton, of foregoing the use of a pillow, will be found highly serviceable.

A most useful exercise for young females who may have a slight lateral curvature, or a tendency to debility in the muscles of the spine, is the carrying a weight, such as a basket, even on the head. This mode of treatment was suggested in 1723, by M. Andry, in his "Orthopædia," from observing the strength of the muscles of the back in milkmaids and flower-girls. The late Mr. Wilson, in his admirable lectures at the College of Surgeons, in 1820, on the effects of muscular action, fully illustrated the advantage to be derived by thus producing a regular and uniform action of the muscles of the spine.

The simplicity of this means of cure, says Mr. Wilson, is often found to operate against a fair and sufficiently long trial being given; nevertheless, when the patient, or her friends, can be made to understand the great advantages of adopting so natural a means of cure, they will generally prefer it to the complicated and pernicious measures usually resorted to by machinists. "Before instruments are applied," says Mr. Wilson, "to relieve one part of the body, assure yourselves, by carefully studying the whole fabric, that they will not be productive of injury to other, and perhaps more important, parts; and ascertain whether it would not be better to adopt natural means of cure, than to shackle nature by, and impose upon the patient, the crude imaginations of a zealous, but perhaps half-informed mind." Another point to be recollected is, that all these exercises must be under the superintendence of a skilful person; neither servants, nor even the patients themselves, can be trusted with the regulation of this most important procedure.

Mr. Thomson, in conclusion, dwelt impressively upon the necessity of attending to the torpid state of the bowels, which usually characterizes spinal deformities. Mild laxatives are at first necessary, but the gradual removal of the curvature is attended with a progressively increased activity of the alimentary canal. Mr. Thomson stated that he had found the iodide of iron, in doses of two grains, given two or three times a day, the best tonic in all cases of spinal debility in young persons.—*Lancet.*

MORAL TREATMENT OF INSANITY.

In the treatment of the insane, medicine is of little avail,* except, of course, when they are suffering, also, from other diseases, to which lunatics as well as sane persons are liable. *Moral treatment with a view to induce habits of self-control, is all and everything.* I have spoken of classification and watchfulness; but these things are done by their guardians, and have little or no reference to their feelings; for they should, if possible, be watched without leading them to suppose that they are suspected of anything improper or injurious.* But occupation and kindness have especial reference to the patient; and their object is (as I have stated) to induce habits of self-control and cleanliness, which qualities are both essential to recovery, and yet cannot possibly be attained unto by a patient under restraint. Out-door employments, with moderate exercise, cheerful society, the occasional presence of friends, and even of visiters, healthy recreations and amusements, the enjoyment of the sweet music of spring, of a calm summer evening, the care of a garden or a shrubbery, or the cultivation of rare and choice flowers, all unite in producing a healthy tone, and giving nerve and vigour to the shattered mind.

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* The use of the lancet, leeches, cupping-glasses, blisters, drastic purgatives, and the practice of shaving the head, are totally proscribed at this asylum, as at Gloucester. The patients' bowels are kept open, their general health is attended to, and they are allowed a generous diet, but no fermented liquor.

No patient should be *compelled* to work in any way; but many of them, both males and females, will voluntarily make themselves useful and be industrious; and in many cases their services are very valuable. Sedentary employments are not good. The offices of religion have a soothing and favourable effect on many: I have found the use of evening service, and the calm and sober strain of piety which pervades the Liturgy, to be well adapted to these unfortunate beings. Religious excitement of the feelings is always bad, and has brought a great number of patients to this, as well as every other asylum. A patient should never be terrified. "Fear is known, by those who have studied the feelings under which self-destruction is attempted, to be one of its most frequent causes. Strange to say, the apprehension of death itself, leads to this act. 'It would seem,' says Dr. Reid, 'as if they rush into the arms of death in order to shield themselves from the terror of his countenance.'"† Their feelings should be consulted as far as possible; the bath of surprise, the rotatory chair, and all such devices cannot have a good effect.

Undivided personal attention towards the patients is now altogether substituted in this establishment for the use of instruments. During the last year there were but three instances of restraint, and those amongst the females; arising entirely from the unfinished and crowded state of the house, as did the two on the male side during the preceding year.

Wherever restraint may become necessary *owing to the imperfect adaptation of the building, or to a want of sufficient attendants*, the most simple means should be selected. On such an occasion I do not know of any constraint which would be preferable to that of seclusion in a darkened room. In this asylum when a patient misconducts himself, he is immediately removed to the refractory patients' gallery, where he remains until he has pledged himself that his future conduct shall be more orderly. This is the only method I employ to induce habits of self-control. *A maniac is seldom known to break his word.*

Violent cases would be extremely rare in all asylums, if the non-restraint system were generally adopted; as would suicides, also, if, in conjunction with the above, dormitories and night-watches were established; but to dispense with restraint altogether such must be the case, or the attempt would be attended with extreme danger. Without the dormitories and night-watches it would be necessary to restrain such as exhibited a tendency to suicide. Under this system, *i.e.*, the non-restraint system, cases of insensibility to natural calls would be seldom met with; to insure the non-existence of such cases, the individuals must be removed from their own homes on the first appearance of the malady, or as soon afterwards as is practicable; before such habits have been induced by the use of the strait-waistcoat or other instruments which confine the fingers, and thus disable the patient from assisting himself on natural occasions.—*From a Lecture on Lunatic Asylums, by R. G. Hill.*

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* It is essential, however, that the patient should be aware that he is *observed* though not *suspected of wrong:* and aware also, that the person who observes him is powerful enough to control him.

† Browne on Insanity, and Asylums for the Insane, page 29.

ON THE DIURNAL VARIATIONS OF THE PULSE.

BY WM. AUGUSTUS GUY, M.B., CANTAB.,
Professor of Forensic Medicine, King's College, London.

To the Editor of the Medical Gazette:

SIR,—The following observations on the diurnal variations of the pulse were originally intended to form a part of my paper published in the last number of the Guy's Hospital Reports. If they seem worthy of a place in your valuable journal they are at your service. Almost all that is yet known of the subject is here brought together, and some of the facts are new to the English reader.

I have the honour to be, sir,
Your obedient servant,
WILLIAM AUGUSTUS GUY.

15, Bloomsbury Square, June 10th, 1839.

Before the publication of Dr. Knox's Essay,[*] in the year 1815, it was the received opinion that the pulse is more frequent in the evening than in the morning. This opinion was not without support from facts, though it rested on a basis far too narrow to support a general theory. The following quotations will show how implicitly the facts, which I shall presently adduce were received as evidence that the pulse becomes more frequent as the day advances. Haller[†] says, "Matutino tempore, quando a salubri somno expergiscimus, et primus ille ab operimentis natus, nimius que calor dissipatus est, pulsus in dato tempore omnium paucissimi solent esse. Consentiunt hic Cl. Rye et Thomæ Schwenke, viri Ill. et mea experimenta." Gregory[‡] is more minute in his description. He says, "Horis matutinis, quum primo expergiscimur, pulsus rarus est, paulatim frequentior evasurus propter multa quibus obgicimur irritamenta; post cibum, excarnibus imprimis, aut acrem, aut conditum, intenditur; sub vesperem levis quasi febricula accedit, cui requies et somnus remedio sunt. Hæc, in sano homine vix observanda, in ægroto, febricitante, hectico præsertim, satis manifeste se produnt." Zimmerman[§] states, that in all subjects the pulse beats more slowly in the morning than at night. Hufeland[‖] speaks of a diurnal evening-fever, accompanied by increased frequency of pulse. During sleep this fever subsides, and the pulse, in common with the other functions of the body, is restored to that quietness and regularity which it had lost during the excitement of the day.

Quetelet[¶] says, that in the evening we usually find ourselves a little more excited then in the morning; and the action of the heart, as well as the respiration, takes place more rapidly. To show that this opinion still prevails among physiologists, I may quote the words of one of the latest writers on the pulse Dr. Bostock[**] says, "It is generally admitted that the pulse undergoes a kind of periodical revolution during the course of the day, and this, independent of any of those circumstances, external or internal, which might be supposed to affect it. This subject has been attended to by various physiologists, and among others by Bryan Robinson and Falconer, who have given us tables of the results of their observations. We are, however, scarcely able to draw any conclusions from them, except that the pulse is less frequent in the morning, and that it has a general disposition to become more frequent as the day advances; but it appears very difficult, if not impossible, to determine in what degree the increased quickness is to be attributed to food, exercise, or to other exciting causes."

Though the majority of authors have contented themselves with stating that the pulse is more frequent in the evening than in the early part of the day, there are not wanting those who describe the diurnal variations of the pulse with still greater minuteness. Fodéré[*] says, "Relativement à la différence du jour de la nuit, on remarque que le pouls de l'homme adulte bat de 60 à 65 fois par minute, au commencement du jour, et qu'il va continuellement en augmentant jusqu'à battre 80 fois dans le même temps, chez les plus excitables, sur la fin de la journée; dans la nuit, les pulsations diminuent de nouveau, jusqu'au matin, on elles se trouvent revenues insensiblement au nombre de 60 à 65." It is clear that this statement is based entirely upon Bryan Robinson's table. According to Double,[†] the pulse in the morning is tolerably quiet; at two o'clock observably quicker; from that hour it diminishes in strength and frequency till eight in the evening, and then again increases till bed-time. Cullen speaks of an acceleration at noon, and another in the afternoon.

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[*] "On the relation subsisting between the time of the day and various functions of the human body; and on the manner in which the pulsations of the heart and arteries are affected by muscular exertion. By Robert Knox, M.D., Edinburgh."—*Ed. Med. and Surg. Journal*, vol. xi., p. 53.

[†] Opera, Physiologica, sectio. 2, § xvii.

[‡] Conspectus Medicinæ Theoreticæ, Cap. XV. ccccliii.

[§] On Experience in Physic, vol. i., p. 250.

[‖] Macrobiotic, p. 53.

[¶] Essai sur l'Homme Moyen, tome ii., p. 88.

[**] Cyclopædia of Practical Medicine, art. Pulse.

I know of no observations on healthy persons which bear out these minute statements of Double and Cullen. In all probability their opinions were founded on the analogy of febrile diseases, in which some such diurnal changes, at least in the sensations and general appearance of the patients, take place. Although it is confidently asserted that the pulse, in febrile affections, is more frequent in the evening than in the morning, I know of no author, except Fordyce, who has been at the pains to put the general opinion to the test by actual observation, and his experience is opposed to the prevalent belief. He says,[‡] "In rheumatic and other inflammatory fevers, I have examined the pulse by the watch two or three times a day, for seven, fourteen, seventeen, twenty-one, or even more days together, without finding it vary three strokes in a minute, not even at noon and midnight, when sensible alterations have been said to be observable in the pulse." It is true that in health, as well as in disease, there is an appearance of febrile excitement, accompanied by febrile sensations towards evening. These sensations I have often myself experienced, combined with flushing of the face and considerable cerebral excitement, but have been surprised to find the pulse not more frequent than in the more calm and tranquil states of the system.

There is no doubt that sensations such as these, probably experienced in a greater or less degree by healthy persons in general, and constituting the "levis febricula" of Gregory, and the "abendfieber" of Hufeland, have led to the belief that the pulse partakes of the general excitement of the system, and have caused greater confidence to be placed in the few observations which we possess than, on careful examination, they are found to justify.[§]

That no such variations as those described by Cullen and Double take place in health, is sufficiently proved by Knox. He says,[‖] "Amidst many hundred experiments, performed under a great variety of circumstances, I could never perceive any such phenomenon. The time of the day at which the first spontaneous acceleration is supposed to happen is noon. My own pulse never showed any symptoms of such acceleration, but, on the contrary, always diminish in velocity. Thus—

Exp.—	11 A.M.	72
	12 noon	71
	1 P.M.	65
	1½ P.M.	64

The other paroxysm, according to the same author (Cullen), occurs in the afternoon, and that too, totally independent of any excitement by food, &c. This opinion is equally erroneous with the former.

Exp. 1.—	3 P.M.	68
	4	66
	5	64
	6	62

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[*] Essai de Physiologie Positive, tom. i., p. 190. Quoted by Knox.

[†] Quoted by Nick.

[‡] New Inquiry, p. 76.

[§] Guy's Hospital Reports, No. VIII.

[‖] New Inquiry, pp. 53, 54.

Exp. 2.—3¼ P.M.	67
4½	67
5	64
5½	63
6	63
6½	62
7	62
7½	60
8	58

These observations of Knox, coupled with others to be presently adduced, prove that there is no foundation whatever for the theory of Cullen and Double; we may therefore turn from these supposed variations to the more tangible question—does the pulse increase in frequency as the day advances? The earliest observations, made with a view of determining this question, are those of Bryan Robinson, and they form the principal authority to which subsequent writers have appealed. The observations of Falconer are less known, and more rarely quoted The following table from Bryan Robinson* "contains the number of pulses in a minute of two healthful men, A and B, when sitting, at the several hours from eight o'clock in the morning to eleven at night. These numbers are means drawn from a large number of observations; those of A from the observations of twelve weeks; and those of B from the observations of three weeks. . A ate his breakfast between nine and ten, B his before nine; they both dined together at two, at which meal B ate more plentifully than A; and they ate little or no supper.

MORNING.									AFTERNOON.									
Hours .	8	9	10	11	12	1	2	Mean.	3	4	5	6	7	8	9	10	11	Mean.
Pulses of A	65	67	70	73	71	69	70	70	77	77	77	77	76	76	74	74	76	76
Pulses of B	66	71	72	68	69	67	67	68½	75	81	84	81	79	77	78	78	79	78

"From this table it appears that the pulse is slower in the morning than at any other time of the day; that it grows something quicker before breakfast, and a little more so after it; that it grows slower again before dinner; and that the quickness acquired by this meal continues for about three or four hours, and then abates a little, and continues in that state, without any considerable change, in bodies which eat and drink little at night till they go to rest." The results of these observations are more generally expressed in the following sentence:—"The pulse is quicker and greater in the afternoon than it is in the morning; and from many observations, taking one hour with another of those two times, it is quicker in grown bodies, one with another, in the proportion of about 80 to 70."

These observations seem to have been made with care; they were frequently repeated, and the same posture was maintained in all. We are not informed whether or not the persons whose pulses were examined remained at rest in the intervals of the observations, or were subjected to the various excitements which occur in the course of every day. As it is not distinctly stated that the persons examined did remain at rest during the time of the experiments, there is every reason to believe that they were exposed to excitement from exercise and other occasional stimuli. However this may have been, the above table gives strong reasons for supposing that the pulse is more frequent in the evening than in the morning.

The experiments of Falconer† lend confirmation to those of Bryan Robinson.

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* Animal Economy, pp. 148-150.

† Observations respecting the Pulse, intended to point out with greater certainty the indications which it signifies, especially in feverish complaints. By W. Falconer. M.D., F.R.S., Physician to the General Hospital, Bath, 1796, p. 26.

He gives a table "founded on an almost daily examination of the pulse for more than three months successively." The subject of the experiments was a male, aged 50, healthy, and of temperate habits. Breakfast was taken at 10 A.M. The time at which the other meals was taken is not specified.

8 A.M.	9	10	11	12	1 P.M.	2	Mean	3	4	5	6	7	8	9	10	11	Mean
63·5	64	66	78·9	79	68·5	67·5	69·6	69·4	74	75	71·75	74	76	85	79·5	80·5	76

Here there is an increase from 8 A.M. to 11 P.M. of 17 beats—a difference much more considerable than that of Bryan Robinson's table. But it is not stated that the pulse was always felt in the same posture, nor is the time of taking the meals, the breakfast excepted, specified. Whether again, the subject of the experiments remained at rest, or was excited by exercise or other stimuli, we are not informed. These observations, therefore, have much less value than those of Bryan Robinson, although they confirm the result at which he arrives, and seem to justify the belief universally entertained by medical men up to the time at which Knox's Essay appeared.

The observations of Knox lead to conclusions altogether opposed to those of Bryan Robinson and Falconer. He found that the pulse, instead of becoming more frequent towards evening, decreased in frequency. The instances which Knox adduces are "taken at random from a great number of others." The sitting posture was preserved in all the observations, and the pulse was felt in the morning before breakfast, and a short time after rising from bed, and in the evening after a light supper, and generally some spirituous liquors taken, however in small quantity, and much diluted. Period, summer. Person submitted to experiment aged 22, slightly muscular and excitable.

9 A.M. (average of 18 experiments),	68·5
12 P.M. " " "	64·38
Difference . .	4·12

The author invites attention to the circumstance of the morning pulse being felt before breakfast, and the evening pulse after supper—the former in a tranquil state, the latter after all the excitement of the day, added to the stimulus of the meal. The following are averages of 18 experiments made after breakfast, dinner, and supper, respectively :—

After breakfast, before 10 A.M.	72
After dinner, before 5 P.M.	74·22
After supper, between 10 and 12 P.M., generally near 12,	64·388

Dr. Knox remarks that though the dinner was much more stimulating than the breakfast, consisting, as it did principally, of animal food, with a small quantity of vegetables, to which porter or spirits were frequenrly added, whilst the breakfast was of coffee, bread, and eggs, yet the pulse after dinner was more frequent than that after breakfast by only 2·22 beats. Again, the supper was at least as stimulating as the breakfast, and yet the pulse after supper is slower than that after breakfast by 7·612, or nearly 8 beats. "The difference between the pulse after breakfast and after dinner would have been 10 or 15, had the case been reversed ; at least I am inclined to think so, from some experiments which I afterwards instituted directly to ascertain the point."*

Another average of six observations made on the author's own pulse gives still more striking results. He had walked three miles before breakfast.

After breakfast, ...	79·33
After dinner, ...	76
After supper, ...	63·3

Hence the pulse was more frequent after breakfast than after dinner by 3·33 ; after dinner more frequent than after supper, by 12·7 ; and after breakfast than after dinner, by 16 beats ; a result directly opposed to that of Robinson and Falconer's experiments, and nearly equal in amount.

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* Loc. cit., p. 56.

Four experiments made in the morning, and three in the evening, on Mr. S., aged 20, in good health, and of regular habits, gave the following averages for the sitting posture:—

Morning,	79·25
Evening,	66·66
Difference,	12·59

The following are the results of seven series of fourteen observations each, made on the same gentleman at different times in the day. (I have omitted two observations made, the one in the recumbent and the other in the erect position, all the rest being taken in the sitting posture.) Meals taken at 7½ A.M., 5½ P.M., and 8½ P.M.

9 A.M.	11	3 P.M.	5	7	9	11
94·6	82·6	74·9	72·9	73·6	71·6	65·78

Here there is a difference between 9 A.M. and 11 P.M. of 28·82 beats—a difference much more considerable than that which occurred in the experiments of Robinson and Falconer.

These observations of Knox appear to justify the conclusion at which he arrives. "If we regard," he says, "as accidental circumstances the acceleration of the pulse at various times by our diet, and that, too, according to the caprice of the individual, the pulse shall be found gradually to diminish in velocity from an early hour until midnight, and generally later." This conclusion is confirmed by a friend of Dr. Knox, who made similar experiments without communicating with him. The Essays of Dr. Knox seem to have met with little attention from the profession, and since his time little has been done either to confirm or to invalidate his observations.

Nick* is the next author who claims our attention. He made some observations on his own pulse and on that of another healthy male, which are peculiarly valuable, as they appear to set the question at issue between Robinson and Falconer on the one hand, and Knox on the other, completely at rest. The following series of observations closely resembles those of Robinson and Falconer, and leads to a similar result. It shows the varying frequency of the pulse at different times of the day, under the influence of a variety of exciting causes. The observations were made upon himself, and the numbers here stated are the mean of four series made on four different days.

7½ A.M.	9	10	11	12	12½	1 P.M.	2	3	4	5	6	7	7½	8	8½	9	9½	10	10½	12
59	67	69	65	69	78	78	86	84	68	71	83	73	79	75	70	72	66	64	72	64

The observations in the following series were commenced at 5 A.M.:—

5 A.M.	6	7	8½	9	10	11	12	12½	3 P.M.	4	5	6	7	8	9	10
59	66	66	84	69	67	67	92	90	78	70	84	110	70	71	75	64

In each of the foregoing tables the pulse is more frequent at night than in the morning, by five beats. The same position of the body was not preserved in the several observations; but in the following tables this source of fallacy was excluded. The first table gives the average of three series of observations made in the sitting posture; the last, of a single series made in the same position.

TABLE I.

9 A.M.	10	11	12	12½	3 P.M.	4	5	6	7	7½	8	9	9½	10½
70	72	68	73	82	78	69	73	73	72	79	71	70	77	72

TABLE II.

6 A.M.	7	8½	9	10	11	12	12½	3 P.M.	4	4	7	8
66	66	84	69	67	67	92	90	78	70	84	70	71

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* Nick uber die Bedingungen unter denen die Haufigkeit des Pulsus verandert wiud. pp. 5–13.

In the first of these tables, the pulse is more frequent at 10½ P.M. than at 9 A.M. by two beats; in the second there is an increase, from 6 A.M. to 8 P.M. of five beats. These tables, taken by themselves, would seem to strike the balance in favour of the opinion that the pulse increases in frequency towards evening; but more careful observations, made also upon his own pulse, lead to an entirely different conclusion. During all these observations, the recumbent posture was preserved; all mental and bodily excitement was avoided; no food was taken; and the same temperature was maintained. An average of six series of such observations (from which three experiments have been omitted, as the pulse was raised above its natural frequency by smoking), give the following results:—

8 A.M.	9	10	11	12	1 P.M.	2	3	4	5	6	7
63·8	62·6	62·8	62·2	62·2	61·4	61·6	60·4	58·6	58·2	58·2	58

Here, then, there is a diminution of 5·8 beats in 12 hours. A mean of two similar series of observations, made on the pulse of a healthy male, aged 32, gives a decrease, during the same period of 12 hours, of 6·5 beats; the difference in the first experiment being 3 beats, and in the second 10 beats.

These observations point to the true explanation of the increase in the frequency of the pulse towards evening, observed by Robinson and Falconer. The body, instead of remaining in a state of rest, and in the same circumstances in each observation, was submitted to various exciting causes, and the pulse betrayed the influence of these causes. Precisely the same irregularities of pulse are observable in the first tables, extracted from Nick's work, but they disappear as soon as the body is placed at rest; and all the observations are made in precisely the same circumstances. We are justified, therefore, in stating, that, in persons who remain at rest during the day, the pulse becomes less frequent as the day advances.

Some experiments made by Hohl,* with no view to the determination of the question which we are discussing, lend confirmation to the conclusions drawn from the observations of Knox and Nick. On comparing the mean of 25 experiments made on the pulses of pregnant women in the morning, with a mean of the same number made on the same women in the evening, I find that the pulse in the morning is 83·28, and in the evening 80·88. The pulse, therefore, is more frequent in the morning than in the evening by 2·40 beats.† The same rule holds good in the new-born child. Thus Hohl states, that if we examine the pulse of the new-born child *during sleep*, in the morning, evening, and night, we find early in the morning a greater frequency than in the evening, and a continual diminution up to midnight.‡ The observations made on the new-born child hold good also with regard to the fœtus in utero. Thus an average of 25 observations on the pulse of the fœtus in utero, made in the morning, gives 138·08 beats, whilst an average of the same number of observations made on the same fœtus in the evening, gives 135·76. The fœtal pulse, therefore, is more frequent in the morning than in the evening by 2·32 beats.§ Hohl himself recognises this fact, and expressly states that the fœtal pulse is more frequent in the morning than in the evening.‖

If we compare the detailed observations of Knox, Nick, and Hohl, with those quoted from Robinson and Falconer, it will be readily conceded, that as the former exceed the latter both in number and accuracy, the balance of evidence is in favour of the theory first advanced by Knox—that the pulse diminishes in frequency as the day advances. The general statements of Haller, Gregory, Zimmerman, Hüfeland, and Foderé, are not entitled to much attention, as they might all have been derived from the experiments of Robinson and Falconer. The observations cited from Nick seem the most conclusive as to the question which we are considering; for when made without care, and in different circumstances of excitement and repose, they yielded the same result as those of Robinson and Falconer; but when made in the same position of the body, and under the same circumstances, they led to the same conclusions as those of Knox. In the absence, therefore, of any careful and accurate observations, tending to prove that the pulse becomes more frequent as the day advances, we are justified in regarding the theory of Knox as the correct one.

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* Die geburtshulfliche Exploration bey Anton. Friedrich Hohl.

† Hohl, vol. i., pp. 101–3.

‡ Ibid. vol. i., p. 177.

§ Pp. 101–3.

‖ Page 176.

That I might place this theory beyond doubt (as far, at least, as experiments made on a single individual could do so), I undertook the series of experiments which are published in the last number of the Guy's Hospital Reports.* I may refer those who take an interest in the subject of the pulse to my original essay. I shall conclude the present sketch by stating the general results to which my experiments led me.

"1. The pulse of a healthy adult male, in a state of rest, unexcited either by food or exercise, is most frequent in the morning, and gradually diminishes in frequency as the day advances.

"2. The pulse diminishes in frequency more rapidly in the evening than in the morning.

"3. The diminution of the frequency of the pulse is more regular and progressive in the evening than in the morning.

"4. The effect of food is greater and more lasting in the morning than in the evening; and in some instances, the same food which in the morning produces an effect considerable both in amount and in duration, has no effect whatever in the evening."

As this difference between the effect of the same food on the same frequency of pulse in the morning and evening obviously admits of being applied to all other stimulants, and to the remedies which we employ in the treatment of disease, the diurnal variations of the pulse have a practical bearing as well as a physiological interest. Some idea of their practical importance may be drawn from the fact, that the mean effect produced by the same food on the same frequency of the pulse in the morning is to the mean effect produced in the evening as 13 to 7, or nearly 2 to 1; whilst the duration of the effect at these two periods is as 3 to 1. This proportion will probably vary in the two sexes, and at different ages, and it will not be constant for any two individuals of the same sex or age. The difference in the frequency and excitability of the morning and evening pulse will probably be less marked in the young subject than in the adult, in the female than in the male. The fact can be determined only by numerous observations, judiciously planned and carefully performed. The science of the pulse is yet in its infancy.

EXAMINATIONS AT THE LONDON UNIVERSITY.

The plan adopted at the London University is the same as that about to be carried into effect in this city at the Medical College of Philadelphia. Students are admitted, from other colleges and associations, to an examination without the University professing to give their instruction through the means of any Special Faculty. Its function is simply to test the qualification of candidates by a suitable examination, and then to confer the degrees.

The first examination for M.B. at the London University has just taken place. There were twenty-six candidates: of those, sixteen have passed, whose names we subjoin. We also give copies of the printed papers that our readers may be aware of the nature of the examination; and we may add, that besides what appears in the printed papers, the candidates were subjected, during six hours on Thursday, and the like period on Friday, to *vivâ voce* examinations and demonstrations in anatomy, physiology, chemistry, materia medica, and pharmacy.

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* See summary of these experiments in Eclectic Journal, vol. iii., p. 403-6.

LIST OF GENTLEMEN WHO HAVE PASSED THEIR FIRST EXAMINATION FOR M.B.

First Division.

1. Ayres—University College.
2. Cook — Webb-street School of Medicine.
3. Hindle—University of Edinburgh.
4. Lewis—University College.
5. Mackenzie—University College.
6. Mauger — Westminster Hospital School.
7. Quain—University College.
8. Smith — Birmingham School of Medicine.
9. Taylor—University College.

Second Division.

10. Girdlestone—University of Edinburgh.
11. Hobson—University College.
12. Lang—Sydenham College.
13. Nicholl — Aldersgate School of Medicine.
14. Purvis — St. Thomas's Hospital and Webb-street School of Medicine.
15. Storrar—University College.
16. Tomes—King's College.

BACHELOR OF MEDICINE. 1839.

FIRST EXAMINATION.

Monday, July 1.—Morning, 10 to 1.

ANATOMY AND PHYSIOLOGY.

Candidates may illustrate their answers by sketching the parts they describe.

Examiners, Mr. KIERNAN and Dr. R. B. TODD.

1. Describe the clavicle and its relations to the surrounding parts, and in what respects the clavicle of the male differs from that of the female. What are the uses of the clavicle? in what manner are the motions of the shoulder impeded in fractures of this bone? in which fractures are they most, and in which least impeded, and which motions are principally impeded? On what anatomical arrangement does the difficulty of diagnosis, in certain fractures of this bone, depend?

2. Enumerate the different kinds of joints, and give examples of each kind. Describe the general mode of arrangement of the ligaments and muscles, and the motions which take place in each kind of moveable joint.

3. State the attachments of the diaphragm, the foramina by which it is perforated, the relations of those foramina to each other, and the parts which pass through them. Mention also the exact relative position of the convex surface of the diaphragm, on the right and left sides, to the parietes of the chest.

4. Enumerate the agents employed in effecting the act of expiration, distinguishing those which are employed in ordinary expiratory acts, and those which are called into action in the more violent efforts of expiration.

5. Commencing the dissection at the integuments of the side of the face, how would you proceed to show the course and distribution of the internal maxillary artery and its branches, and the parts contained in the zygomatic fossa? Describe the steps of the dissection, mentioning the parts in the order in which they are met with, and describe the two pterygoid muscles, and their actions.

6. What changes does the air undergo in respiration, and how may those changes be accounted for?

7. Describe the position of the heart and its relations to the other contents, and to the parietes of the thorax.

Monday, July 1.—Afternoon, 3 to 6.

ANATOMY AND PHYSIOLOGY.

Candidates may illustrate their answers by sketching the parts they describe.

Examiners, Mr. KIERNAN and Dr. R. B. TODD.

1. Describe the crural canal. What are the varieties in the origin and course of the obturator artery, and what are the occasional relations of this vessel to the inner portion of the superior aperture of the canal?

2. State all the parts which are successively brought into view in dissecting an intercostal space from the skin to the pleura. Give their relative positions, and describe the intercostal muscles.

3. Describe the fundus of the bladder, and its relations to other parts, with reference to the operation of puncturing the bladder from the rectum.

4. What are the reasons for believing that the lymphatic vessels are absorbents?

5. Describe the origin and course of the first dorsal nerve as far as its junction with the brachial plexus. State the principal experiments which have been performed with the view of ascertaining the functions of the spinal nerves, and the conclusions derived from these experiments.

6. Enumerate the several parts of the organ of hearing in man, in the order of their relative importance. Describe the most important part, and state the reasons for considering it essential to the perfection of the sense.

7. Describe the origin, course, and distribution of the hypoglossal nerve, and the distribution and functions of the other nerves of the tongue.

Tuesday Morning, 10 to 1.

CHEMISTRY.

Examiner, Professor DANIELL.

1. What is meant by a degree of temperature upon Fahrenheit's scale? and how does it differ from a degree upon the centigrade scale?

2. Define and illustrate the theory of latent heat with reference to ice, water, and steam; and state the manner of obtaining fixed points for the graduation of thermometers.

3. Explain the phenomena of "single elective affinity" and "double elective affinity," and illustrate them by examples.

4. Illustrate the meaning of the term "chemical equivalents" by example; and state the equivalents of the non-metallic elements upon the hydrogen scale.

5. Name the principal hydro-acids; state their equivalent numbers upon the hydrogen scale; and explain their action upon metallic oxides.

6. Explain the process for obtaining cyanogen; and describe its constitution and properties.

7. What is the constitution of carbonic acid? of carbonic oxide? of oxalic acid? Explain the action of cencentrated sulphuric acid upon the latter.

8. Describe the general process for organic analysis, and explain the principles upon which it is founded.

Tuesday, July 2.—Afternoon, 3 to 6.

BOTANY, MATERIA MEDICA, AND PHARMACY. STRUCTURAL AND PHYSIOLOGICAL BOTANY.

Examiner, Professor HENSLOW.

1. Explain the structure of Exogenous and Endogenous stems.

2. Describe fully the several parts of the stamen.

3. How do you distinguish between angulinerved and curvinerved leaves; and in which classes do they respectively predominate?

4. What are the normal characters of the fruit of Cruciferæ and Umbelliferæ?

5. Describe the stomata and their functions.

6. Explain the functions of respiration in plants.

7. What are the phenomena observed during the fertilization of the ovule?

8. Enumerate some of the chief means by which the dispersion of seeds is effected.

9. What are the stimulants necessary to secure the germination of seeds? and what the successive steps in this process?

Tuesday Afternoon, 3 to 6.

MATERIA MEDICA AND PHARMACY.

Examiner, Mr. PEREIRA.

1. Enumerate the officinal substances ordinarily used as emetics. Specify the peculiarities attending the operation of each, and the maladies for which each is specially adapted.

2. To what part of the classification of Cuvier does *Cantharis vesicatoria* belong?

What are the effects of this insect? In what maladies is it used? Enumerate its officinal preparations, with their doses.

3. State the chemical characteristics of good cinchona bark. With what substance is iodide of potassium frequently adulterated? How is the fraud recognised? With what substance is calomel liable to be contaminated, and how is the contaminating matter recognised and removed?

4. Briefly describe the botanical characters of *Momordica Elaterium.* Mention the Natural Order to which this plant belongs; also in what part of the Sexual System of Linnæus it is placed. Describe the method of preparing elaterium. What are the effects of this substanee? In what maladies is it used? What is its medium dose?

5. What are the products of the reaction of sulphuric acid on ferrocyanide of potassium in the process for making *Acidum Hydrocyanicum Dilutum*, Ph. Lond.? How is the strength of diluted hydrocyanic acid determined? How would you treat a case of poisoning by this acid?

6. On what ingredient do the medicinal qualities of the mineral waters of Tunbridge Wells depend? In what classes of complaints do you consider these waters advantageous?

7. In what diseases is electricity employed? How would you apply it?

8. What are the primary effects of the cold bath? In what cases is its use admissible?

9. What are the effects of strychnia? In what diseases has it been used? What are the indications and contra-indications for its employment? What is the medium dose of it?

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EXAMINATION FOR HONOURS.

No candidate presented himself to be examined for honours in Anatomy and Physiology, and only one in Chemistry and Materia Medica. This paucity of candidates may, we believe, be attributed to the Senate having decided that candidates for honours in subjects above mentioned must not have attained their twenty-second year, and we understand that only one of the nine who occupied the first division at the "pass" examination was eligible.

It may be proper to state that the prizes to be adjudged where the Examiners deem the candidates worthy of them, are in each of the three subjects above referred to;—an exhibition of 30*l.* per annum, for two years; two gold medals value 5*l.* each.

We subjoin the questions for honours in Chemistry and Materia Medica.

BACHELOR OF MEDICINE. 1839.

FIRST EXAMINATION.

EXAMINATION IN CHEMISTRY FOR HONOURS.

Wednesday, July 10.—Morning, 10 to 1.

Examiner, Professor Daniell.

1. Is there any, and what, difference in the law of expansion by heat, between water and alcohol?

2. Explain the phenomenon of dew.

3. Explain the principal phenomena of electrical induction, and the construction and action of the Leyden jar.

4. What are the principal phenomena of a simple voltaic circuit?

5. Describe the construction of the voltaic battery, and explain the origin of its power.

6. What is electrolysis? and what the principal laws by which it is governed?

7. What is Isomerism? Illustrate the subject by examples.

8. Describe the process for the production of sulphuric ether, and explain the changes which take place during its production.

9. What is the constitution of urea? Explain by chemical notation the relation which it bears to cyanate of ammonia.

10. What is oxalamide? What relation does it bear to oxalate of ammonia?

Wednesday Afternoon, 3 to 6.

MATERIA MEDICA AND PHARMACEUTICAL CHEMISTRY.

Examiner, Mr. PEREIRA.

1. Describe the method of preparing hydrochlorate of morphia according to the London Pharmacopœia. Explain the successive steps of the process and state how morphia is directed to be extracted from the hydrochlorate. What is the primary form of the crystals of this vegetable alkali? By what chemical characters is morphia distinguished from narcotina, codeia, strychnia, brucia, and quina? What is the atomic constitution of morphia?

2. What are the symptoms, for the relief of which opium is used in inflammatory diseases; and what are the circumstances which permit its employment? For what purposes is this remedy administered in continued fever, and what are the symptoms which forbid its use?

3. What are the botanical characters and prevailing medicinal qualities of *Ranunculaceæ*, *Umbelliferæ*, and *Solaneæ*? Enumerate the officinal species in each order.

4. Describe the digestive apparatus (including the mouth) of the officinal leech. Explain how this animal perforates the skin and draws blood. Mention in what cases leeching is to be preferred to cupping.

5. What change does sulphate of iron suffer when mixed with the *Decoction Aloës compositum?* What soluble ferruginous salts are compatible with this decoction? What substances are incompatible with the *Mistura Ferri composita?*

6. Describe the method of preparing *Antimonii Potassio-tartas*, PH. LOND.; and explain the chemical changes which occur during the process. What is the composition of this salt in the crystallized state?

7. In what inflammatory diseases, and under what circumstances, would mercury, given so as to affect the mouth, be admissible and advisable? How would the existence of syphilis, scrofula, or local malignant disease affect its use?

8. What are the effects, uses, and doses of *Lobelia inflata* and of *Chimaphila corymbosa?*

9. Describe in botanical language the fruit of *Conium maculatum.*

10. What pharmaceutical crystals have the square prism for their primary form?

SECOND EXAMINATION.

PASS EXAMINATION.

Monday, July 15.—Morning, 10 to 1.

PHYSIOLOGY AND COMPARATIVE ANATOMY.

Examiner, Dr. ROGET.

1. Enumerate the component parts of the blood; specify their physical and chemical properties, and describe and explain the phenomena of the coagulation of the blood.

2. Describe the course of the blood in its circulation; state the proofs that such is its course, and give a general account of the powers by which its motion is maintained.

3. Describe the general plans of the organs of circulation in the four classes of vertebrate animals, and also in the mollusca, with reference more especially to their different modes of respiration, and to differences in their temperature.

4. What effects ensue from the extirpation of the kidneys?

5. Describe the forms, and explain the office of the air-bladder of fishes.

6. State the purposes which are answered by the ganglia and the plexuses of nerves.

7. Describe and explain the effects of a section of the pneumogastric nerve.

8. Describe the characteristic forms of the nervous system in each of the four great divisions of the animal kingdom, viz., vertebrate, molluscous, articulated, and radiated animals.

9. Describe the mode in which images of external objects are formed in the human eye; and also the provisions in that organ for different focal adjustments, and for correcting the spherical and chromatic aberrations.

10. Enumerate the anatomical difference between the eye of the ox and that of man; and state generally the peculiarities of structure in the eyes of birds and of fishes.

Monday, July 15.—Afternoon, 3 o'clock.

CLASSICAL EXAMINATION.

Examiners, Dr. Billing and Dr. Tweedie.

Translate the following passages into English:—

Celsus de Re Medica, lib. ii. cap. 4.
Celsus de Re Medica, lib. iii. cap. 20.
Celsus de Re Medica, lib. iv. cap. 20, sect. 2.

Tuesday Morning, July 16, from 10 to 1.

SURGERY.

Examiners, Sir Stephen Hammick and Mr. Bacot.

1. Define common acute inflammation, its characteristic symptoms and causes.
2. State the various terminations of inflammation, with the treatment of each respectively.
3. How do you class wounds arising from external violence? Describe their nature, symptoms and treatment.
4. What is the process by which union is accomplished in a simple fracture of a cylindrical bone?
5. Give the different dislocations of the shoulder-joint, their symptoms, and mode of reduction.
6. What is hydrocele—its palliative and radical treatment?
7. Enumerate the different situations and names of herniæ, with the various conditions in which they are found.
8. Describe the operation for popliteal aneurism.

Tuesday, July 16.—Afternoon, 3 to 6.

MEDICINE.

Examiners, Dr. Billing and Dr. Tweedie.

1. Describe the general symptoms, anatomical characters, and physical signs of pleurisy. Give an outline of the treatment.
2. What are the different forms of scarlet fever? Specify the symptoms which characterize each variety, and its appropriate treatment.
3. What are the principal lesions which induce ascites? How is it distinguished from pregnancy, ovarian tumours, or tympanites?
4. What are the symptoms of laryngitis? Describe its anatomical characters, diagnosis, and treatment.
5. Give the anatomical characters of cerebral hæmorrhage, and the changes which subsequently take place in the coagulum and in the nervous tissue.
6. Detail the symptoms, morbid appearances, and treatment of dysentery. Mention particularly the circumstances which determine the propriety of blood-letting, and those which contra-indicate its employment.
7. What are the symptoms of nephralgia calculosa? State its diagnostic signs, and the curative and prophylactic measures to be employed in the treatment.
8. Detail the measures to be adopted when an individual is seized with cerebral apoplexy.

Wednesday, July 17.—Morning, 10 to 1.

MIDWIFERY AND THE DISEASES PECULIAR TO WOMEN AND INFANTS.

Examiner, Dr. Locock.

1. What are the signs of pregnancy? Which are doubtful and which are decisive?
2. What are the changes which take place in the fœtus immediately after the first act of respiration?

3. What are the circumstances under which it may be desirable to bring on premature labour, and what are the various modes of effecting it?
4. What are the nature and causes of hæmorrhage before parturition, and the modes of treating it?
5. With what may polypus of the uterus be confounded, and what is the diagnosis?
6. What are the signs of the death of the fœtus?
7. What is the order of the first dentition?
8. What are the symptoms of laryngismus stridulus—the causes—and the treatment?

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Wednesday, July 17.—Afternoon, 3 to 6.

FORENSIC MEDICINE.

Examiners, Prof. Daniell, Dr. Locock, and Mr. Pereira.

1. What are the symptoms and chemical proofs of poisoning with opium?
2. How are blood stains on metal and linen to be distinguished from other stains?
3. What are the proofs that carbonic acid gas is a *positive* poison? What are the morbid appearances which it produces in the body?
4. What are the symptoms of arsenical poisoning? How may the presence of arsenious acid in organic mixtures be ascertained?
5. What condition of the ovary is a test of impregnation having formerly existed, and how much is such a test to be relied on?
6. Describe the signs of recent delivery,—those distinguishable during life—and those proved by dissection.
7. In suspected infanticide, what are the proofs that respiration has taken place, and how much are they to be depended upon?—*Med. Gazette.*

INFLUENCE OF THE SYMPATHETIC NERVES ON POISONING.

To the Editor of the Medical Gazette:

Sir,—Having made some experiments on a subject which has excited considerable interest within the last few years—the physiological action of poisons—I am anxious to direct your attention to a point, as far as I am aware, hitherto unnoticed.

After making a wound on the inside of the thigh of a rabbit, I applied to it six drops of a solution of hydrocyanic acid. The animal was dead in four minutes. After some unsuccessful attempts, I succeeded in dividing both sympathetic nerves in the lumbar region of another rabbit, much about the same size and age. To a similar wound on the thigh, I then applied the same quantity of hydrocyanic acid. No effect appeared to be produced for nearly ten minutes, when, some slight convulsions coming on, I repeated the application, but it was not till sixteen minutes from the time I applied the first quantity that the animal was dead.

A short time since I made a communication to Dr. Christison on this subject, thinking that if, by future inquiries, it could be shown that poisons exert their influence through the medium of the sympathetic nerves, it would explain many things connected with their physiological action at present very obscure. For example, their non-action when applied to cut surfaces of the brain, spinal cord, and its nerves; also when a poisoned limb is connected with the body by means of the spinal nerves alone, and the varying intensity of their action with the texture to which they are applied; for there can be little doubt that the blood-vessels and pulmonary cells require and receive a larger supply of ganglionic nerves than other textures.

The learned Professor has very politely answered my letter, stating that "he cannot find that anything has hitherto been done of the least consequence towards ascertaining what part is performed by the nerves of the sympathetic system in the action of poisons," and suggesting, "to repeat the experiment several times with the same poison in larger doses, and in different animals; and afterwards with other poisons, among which the most interesting would be strychnia, conia, nicotianine, or the empyreumatic oil of tobacco, and any other very powerful poisons which produce a characteristic set of symptoms in acting on the nervous system."

Now, sir, I have not time to pursue a subject, however curious and interesting, which would require so many experiments to prove what Abercrombie calls "the universality of the fact." I have therefore wished to direct attention to the subject by means of your valuable journal; and remain, sir,

Yours, very respectfully,

Bishop Street, *Dublin*, *July* 15, 1839. THOMAS J. WELLS.

DISCOVERY OF MUSCLES WHICH ROTATE THE DORSAL VERTEBRÆ.

(ROTATORES DORSI) IN MEN AND MAMMALIA.

By Prof. Theil, of Bern.

THE rotatores dorsi are muscular fasciculi situated beneath the multifidus spinæ, and separated from its fasciculi by cellular tissue. They are found only in the dorsal portion of the spine, and are usually eleven in number on each side. They arise from the transverse processes of the dorsal vertebræ, from the second to the eleventh, and each is attached by fibres running transversely inwards, to the arch of the vertebra next above that from which it arises. Each muscle, covered by the multifidus spinæ, is fixed by short tendinous fibres to the upper edge and posterior surface of the transverse process, and by fleshy fibres to the lower edge, and in part to the posterior surface of the arch, up to the base of the spinous process. The muscles have not all the same size; the lowest are largest, except the eleventh, which is small. The uppermost generally passes from the transverse process of the second dorsal vertebra, over the first, to the arch of the seventh cervical.

Professor Theil has discovered perfectly analogous muscles in the dorsal portion of the spine in several species of quadrumana, carnivora, and rodentia.—*Müller's Archiv.* Heft ii. 1839.

ON THE DISORDERS OF THE BRAIN CONNECTED WITH DISEASED KIDNEYS.

BY THOMAS ADDISON, M.D.*

ACCORDING to Dr. Addison's experience, cerebral affections connected with renal disease are marked by a pale face, a quiet pulse, a contracted or undulated and obedient pupil, and the absence of paralysis.

He distinguishes five different forms of cerebral disorder. These are:

1. A more or less sudden attack of quiet stupor, which may be temporary and repeated; or permanent, ending in death. This form of cerebral disorder appears to be characterized by a mere torpidity of manner, sluggishness of intellect, and tendency to quiet stupor, and is met with of all degrees of severity up to its most exquisite form, when there is complete insensibility to all surrounding objects. There is, however, no paralysis, no laborious or stertorous breathing, and no convulsions; the face is pale, and the pulse quiet. This appears to be the least formidable variety of cerebral disorder attending renal disease, and is chiefly connected with temporary derangements of the functions of the kidneys. Thus it is not unfrequently observed at an early period in the progress of scarlatina, and in cases of fever, as also in retention of the urine from stricture or calculus. In such instances the symptoms pass away and the patient recovers.

2. A sudden attack of a peculiar modification of coma and stertor, which may be temporary or end in death. The first form of cerebral affection sometimes passes into this, which is the serous apoplexy of authors. The coma is for the most part complete, so that the patient cannot be roused to intelligence for a single moment. The stertor is peculiar, and in a measure characteristic of this form of cerebral disorder. It has not the harsh, deep, guttural sound of ordinary apoplexy, but has more of a hissing sound, as if produced by the air striking

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* Guy's Hospital Reports, No. VI., April, 1839.

against the hard palate or the lips, rather than against the velum and throat. The act of respiration is in general more hurried than in ordinary apoplexy. The face is pale, often remarkably so; and this, combined with the peculiar hissing stertorous breathing, has often enabled Dr. Addison to pronounce the comatose symptoms to be dependent on renal disease, without asking a single question.

3. A sudden attack of convulsions, which may be temporary, or terminate in death. The face is pale, though occasionally it is flushed at intervals. The pulse is singularly quiet, but during the convulsions becomes rapid, irregular, and jerking. This form frequently passes into the next variety, which, in fact, is:

4. A combination of the two latter; consisting of a sudden attack of coma and stertor, accompanied by constant or intermitting convulsions. These two last forms of cerebral disorder indicate a more serious affection of the kidneys than the first variety. Dr. Addison has observed them most frequently in cases of renal dropsy after scarlet fever; and in that form of dropsy supposed to arise from direct exposure to cold and damp, and known by the name of inflammatory dropsy. Still, patients often completely and permanently recover.

5. A state of dulness of intellect, sluggishness of manner, and drowsiness, often preceded by giddiness, dimness of vision, and pain in the head; proceeding either to coma alone, or to coma accompanied by convulsions. This form makes its approach in a more gradual and insidious manner than any of the other varieties of cerebral disorder which are connected with diseased kidneys. It is the most stubborn and intractable, as well as most fatal form, and is usually associated with that particular disorganization of the kidney described by Dr. Bright.

ON THE EMPLOYMENT OF GOLD LEAF FOR THE PREVENTION OF PITTING IN SMALL-POX.*

Baron Larrey communicated to the Academy an interesting notice of a practice which was prevalent amongst the Egyptians and Arabs, by which they prevented the unseemly scars produced on the exposed parts of the body by the suppurating of the small-pox pustules. The practice consisted in covering the exposed parts of the body, as the face, hands, and feet, with gold leaf, as soon as the eruption made its appearance.

M. Legrand bears testimony to the efficacy of the practice, having tried it in one case which he relates. The patient was a beautiful English girl, who had a copious eruption of confluent small-pox. On the first day of the eruption the whole of the face was covered with the gold leaves, which were made to adhere by means of gum-water. The application was renewed morning and evening so long as the suppurative fever continued; and when the cure was completed, not a pit or scar was left on the face where the gold leaf had been applied. The hands and the rest of the body which had not been thus protected were deeply marked with the scars of the pustules.

Baron Larrey says, that he has found nearly the same beneficial results to follow from the repeated anointing of the face of the person labouring under small-pox with almond oil; a practice which recommends itself from its cheapness and the facility of its application.

NARCOTINE, A SUBSTITUTE FOR QUININE.†

Numerous experiments have of late been made in India with the view of ascertaining what substances of native growth could be substituted for the more expensive imported medicines. Of these, narcotine, as a substitute for quinine, has been submitted to extensive trials, and given the most satisfactory results. The narcotine was employed in the form of muriate, and administered in three grain doses; and a number of cases are related where, from two to four doses of the narcotine succeeded in curing agues, which had resisted quinine, arsenic *Cæsalpinia Bonducella*, and other native remedies.

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* Compte Rendu, &c., July 1 and 8, 1839.

† Quarterly Journal of the Calcutta Medical and Physical Society, July, 1838.

Dr. Stewart of Calcutta, after enumerating a list of cures effected by this substance, thinks he is warranted in arriving at the following conclusions:

"The muriate of narcotine is a perfectly safe agent to any extent, and in large or small doses; that as a substitute for quinine, it is unexceptionable, and possesses over the latter many attributes which render it both a safer and more generally useful remedy in all the fevers of Bengal.

"These are, 1. In small doses it proves antiperiodic, if given in the intermission some hours before the expected paroxysm.

"2. In ten grain doses it is powerfully and immediately calmant, sudorific, and antiperiodic.

"3. It does not in such doses accelerate the pulse nor exalt the sensibility of the nervous system; it does not interfere with the action of other medicines; it does not constipate; it never produces giddiness, headache, or disturbed viscera; it does not produce nor increase determination to any particular organ, or to any already diseased or irritable viscus.

"4. It promotes all the secretions, and seems to act equally and generally on the whole capillary system, without depressing the vital powers, which it rather sustains meanwhile.

"5. Its action is maintained by application to blistered surfaces."

Dr. O'Shaughnessy observes, that "the muriate of narcotine possesses powerful febrifuge and antiperiodic properties, but it does not produce narcotism, does not constipate the bowels, and never produces in fever cases the distressing headache and restlessness which so commonly follow the administration of quinine, and so often rendered its use uncertain, if not absolutely dangerous. The narcotine, is moreover, proved to be a powerful sudorific, perhaps the only one with which we are acquainted, which acts without producing either nausea or excitement.

Dr. O'Shaughnessy prepares the muriate of narcotine by the following process, which appears to be simple and economical, and, so far as we are aware, new.

"Take of Bengal opium, 2lbs., alcohol, 20lbs. Rub them well together in a large mortar, adding the spirit by degrees, until the opium is exhausted of its soluble parts. Decant the solution, and press the insoluble part. To the alcoholic solution add as much ammonia as renders the liquid slightly turbid. Distil from a common alembic, till 15lbs. of the alcohol are recovered. Draw off the fluid in a still, and set it aside to cool. On cooling, it deposits a mass of coloured crystals, composed of narcotine, meconate of ammonia, and resin. Wash with water, which dissolves the meconate of ammonia, and then with one quart of water and one drachm of muriatic acid, which dissolves the narcotine, and leaves the resin;—filter. The solution, which is of a rosy colour, is to be evaporated to dryness. The muriate of narcotine thus prepared is a transparent resinous mass, of a rosy colour, brittle vitreous texture, very soluble in distilled water and spirits, and intensely bitter.

A beautifully crystalline muriate of narcotine may be prepared by precipitating the muriate thus made by ammonia, and dissolving the precipitate in boiling alcohol, from which the narcotine separates in fine crystals, as the solution cools. The crystallized narcotine, placed in a tube, and subjected to the influence of a stream of muriatic acid gas combines with the acid, while it retains its original crystalline form. But this process, though more elegant, is too expensive and elaborate for general use, and the non-crystalline muriate is just as valuable as the more beautiful product now described.

ACTION OF THE HEART.

From a series of interesting experiments on this subject by Drs. Pennock and Moore, they draw the following conclusions:*

"1st. The impulse is synchronous with, and caused by, the ventricular contraction,—and when felt externally, arises from the striking of the apex of the heart against the thorax.

"2d. The expulsion of the blood from the ventricles is effected by an approximation of the sides of the heart only, and not by a contraction of the apex towards the base; during the systole the heart performs a spiral movement, and becomes elongated. (Experiments 6th, 10th, and 11th.)

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* The Report is published in the Medical Examiner, No. 44, Vol. II.

"3d. The ventricle contracts and the auricle dilates at the same time, occupying about one-half of the whole time required for contraction, diastole, and repose. Immediately at the termination of the systole of the ventricle, its diastole succeeds, occupying about one-fourth of the whole time, synchronous with which the auricle diminishes, by emptying a portion of its blood in the ventricle, unaccompanied with muscular contraction. The remaining fourth is devoted to the repose of the ventricles, near the termination of which the auricle contracts actively, with a short quick motion, thus distending the ventricles with an additional quantity of blood: this motion is propagated immediately to the ventricles, and their systole takes place, rendering their contractions almost continuous. (Experiments 15 and 16.)

"4th. From the termination of their diastole to the commencement of their systole, the ventricles are in a state of perfect repose, their cavities remaining full, but not distended, while those of the auricles are partially so, during the whole time.

"5th. The sounds are produced by the motions of the heart or its contents, and not by striking against the thorax, as proved in all the experiments; being much louder when the stethoscope was applied directly to the heart, than when to the chest, or with the lungs interposed.

"6th. The sounds are more distinct when the muscle is thin, and contracts quickly. Hence the clear, flapping character of the first sound over the right ventricle, as compared with the left.

"7th. The first sound, the impulse, and the ventricular systole are synchronous. This sound may be a combination of that caused by the contraction of the auricles, the flapping of the auriculo-ventricular valves, the rush of blood from the ventricles, and the sound of muscular contraction. From experiments 3d, 4th, 6th, and 10th, when the heart was removed from the body, the ventricles cut open and emptied of their contents, the auriculo-ventricular valves elevated, and a sound resembling the first, still heard, it may be chiefly attributed, to the muscular contraction. That these valves aided but slightly in its production, may also be inferred from experiment 16.

"8th. The second sound is caused exclusively by the closure of the semilunar valves from the reaction of the arterial columns of blood upon them, in its tendency to regurgitate through the aortic and pulmonary orifices. This is proved by the greater intensity of this sound over the aorta than elsewhere, the blood having a strong tendency to return through the valvular opening; by the greater feebleness of the sound over the pulmonary artery, which is short, and soon distributes its blood through the lungs, thus producing but slight impulse upon the valves in the attempt to regurgitate; by the disappearance of the sound, when the heart becomes congested and contracts feebly; and, finally, on account of its entire extinction when the valve of the aorta was elevated.

"9th. The second sound is synchronous with the diastole of the ventricle."

The experimenters terminate the report by saying:—

"From these experiments, it will be seen that our conclusions coincide very nearly with those of the British physiologists,—the correctness of whose results, when compared with those of the French, may be mainly attributed to the use of larger animals. From our observations, calves, of from four to eight weeks old, are decidedly preferable to other quadrupeds for these investigations. The tenacity of life of calves of this age is greater than in older animals, whilst the cardiac pulsations are slower, and more forcible, than they are in the younger. The heart of this animal, too, is of large size, and the introduction of hooks for the elevation of the valves is readily effected.

"The English and Irish physiologists enjoyed great facilities in the slow and regular action of the heart, as induced by the woorara. Perhaps, at some future period, when this may be obtained, the investigations may be pursued, as other points of inquiry are offered.

"*Philadelphia, Nov.* 2, 1839."

THE ECLECTIC

JOURNAL OF MEDICINE.

Vol. IV. JANUARY, 1840. No. 3.

CLINICAL OBSERVATIONS ON PSEUDO-MORBID APPEARANCES.

Delivered at Charing-Cross Hospital.

BY W. D. CHOWNE, PHYSICIAN TO THE HOSPITAL.

In consequence of our finding it so very frequently necessary, in the course of our clinical proceedings, to distinguish between appearances that are really the consequences of disease, and those which, although they resemble diseased appearances, are not incompatible with a perfectly healthy state of the part, I purpose noticing, from time to time, as part of our clinical studies, some of the changes in the various structures which easily may be, and frequently are, mistaken for the result of morbid actions prior to death. How important it is that you should make these changes objects of particular attention you are well aware, not only with reference to your present and immediate clinical pursuits, and to the result of diseases, the progress and issue of which you have watched, but with reference also to cases of forensic interest, of which you may have had no previous knowledge, and where death may have been the consequence of adventitious and improper agents. I propose to adopt this plan, because observations made collectively, and in the form of a series, showing the relation that obtains between the different kinds of pseudo-morbid appearances, and the general principles upon which they depend, may have the effect of bringing the subject under your attention more advantageously than similar observations, arising casually out of cases as they accidentally present themselves, and made, so far as their relation to each other depends, in an isolated manner, would do. It will enable us better to keep in view the general connection that exists between many of those appearances, although occurring in different structures, and the uniformity of the general principles upon which many of them depend.

That other causes than inflammation may occasion appearances similar to those which inflammations produce, is now well established; and there is little, or indeed no doubt, that inflammation has often been supposed to have left its traces where, in fact, it never existed. We are, as you are aware, not without examples of favourite doctrines, founded on the supposed frequency of inflammatory action, especially in the membranes lining the stomach and intestines; and the ardour with which these doctrines have been pressed has given rise to increased vigilance in those who have not accorded in opinion with their champions.

In the zeal of partiality for his own peculiar views, Broussais construed, much too freely, almost every instance of increased vascularity to be the result of inflammation. More accurate discriminations, however, have shown that other causes, causes not of a morbid character, produce exactly similar effects.

The doctrines of Broussais were especially resisted by his own countrymen, M. Trousseau and M. Rigot, and on their testimony, as well as on that of MM. Billard and Orfila, Dr. Carswell, Andral, and others, who have given their attention to the subject, post-mortem changes, and changes consequent upon natural processes during life, often give rise to appearances similar to those of disease. To Dr. Yelloly the profession is especially indebted for his excellent treatise, illustrative of this, relating to vascular appearances in the stomach, which are frequently mistaken for inflammation of that organ.

It is not to the pathologists of any particular country that this mistaken view is to be imputed. Hoffman, for example, in his chapter, "De inflammatione ventriculi frequentissima," expresses his wonder that inflammation of the stomach, so frequently as it occurs, as inferred from post-mortem examinations, should be so seldom observed during life. He remarks that in dissected bodies the stomach is often very florid, with sometimes red and sometimes black distinct spots, and that the blood-vessels and the capillaries are often found turgid with blood. Appearances of this description, which he found in persons dying of plague, he still attributed to local morbid action in the stomach, although he imputed that action to a species of poisonous *miasma* inhaled with the breath, producing spasms, and consequent *inflammation* of the stomach.

De Haen enumerates, amongst the *problemata et difficultates*, inflammation of the stomach terminating in death, without signs in the pulse of fever, or of gangrene, or signs of pain, or of defect of any kind in the function of the viscus.

Dr. Cullen was led by post-mortem appearances also to the belief that inflammation of the stomach must have often existed even when no symptoms had betrayed it during life; and he observes that "from the dissections of dead bodies it appears that the stomach very often has been affected with inflammation when the characteristic symptoms of it had not appeared, and therefore it is very difficult to lay down any general rules for the cure of this disease." Vol. ii., p. 240.

We find in the writings of Portal a statement that in some dead bodies the viscus is not found to be inflamed, except in certain parts, as towards the cardia, or the pylorus, often in the great curvature, or elsewhere; at other times the stomach is found to be inflamed throughout; and he observes, that by means of the slightest turgescence of the vessels, the veins particularly, the villous coat becomes black; adding, that this black colour ought to be considered a mark of *inflammation* rather than poison; evidently not regarding it as a result independent of disease. Of this black appearance we shall speak hereafter.

Frank states that where the marks of inflammation are frequently found after death, no symptoms of the disease had occurred during life; and Haller was led by his dissections to consider, from appearances which he had found in the intestines resembling those occasioned by inflammation, to conclude that inflammation is almost constant in fever of every kind, and frequent in every other.

In order to facilitate our comprehension of the different changes to be described, it will be desirable that we should adopt some general arrangement. With this view we will first group the different circumstances under which the various tissues and organs of the body may be found after death, and then proceed to the consideration of them individually. They may be enumerated under three heads:—Natural, Morbid, and Pseudo-morbid.

The natural appearances may present varieties depending upon the age of the subject,—

First—In density;

Second—In colour.

The morbid appearances may present varieties, depending,—

First—Upon defective development, as in congenital defect.

Second—Upon disease varying in character and in degree.

The pseudo-morbid appearances may present varieties, depending upon—

Causes which come into operation after death.

Causes which come into operation shortly before death, or during the act of dying.

Causes which are functional, and which produce their effect prior to death.

It is not necessary to give a definition either of the term natural appearances, or morbid appearances. Of the term pseudo-morbid appearances, however, although it very well expresses its own meaning, a specification of that meaning, as applicable to our present object, may be desirable.

Those appearances are included in the term pseudo-morbid, which, in the first place, are not natural, and which, in the second place, are not morbid, yet, although not morbid, resemble, or nearly resemble, such as are.

The term pseudo-morbid explains better than any other the appearances to which it refers. Neither "cadaveric" nor "post-mortem" applies equally well to all that it includes, for many are pseudo-morbid which have ther origin during life, in causes totally independent of disease.

It is employed by the author of an analysis of Trosseau and Rigot's papers, and by Dr. Christison; and an able article on pseudo-morbid appearances, by Dr. R. B. Todd, well known to you as the Professor of Physiology at King's College, forms a valuable portion of the "Encyclopædia of Practical Medicine;" after these authorities the term is not the less valuable for being somewhat new.

Pseudo-morbid appearances have their origin either in causes not connected with *disease before* death, or in causes not connected with *disease after death.* Some of these causes we will now proceed to consider. A very wide range of pseudo-morbid appearances are the consequence of afflux of blood to different parts independently of disease; and the circumstances under which the afflux might take place may be described under five general heads: three in which the appearances are positively pseudo-morbid, as,—

1. From the effect of gravitation, either prior to death or after death;
2. From the effect of muscular exertion in the agonies of dying;
3. From reflux of venous blood after death;

And two in which the appearances are relatively pseudo-morbid,—

1. From the performance of vital functions during life;
2. From obstruction to the return of venous blood through other parts, also, during life.

We will first pay attention to those which are positively pseudo-morbid.

That a diminution of the vital powers has a decided and long precedence of their final extinction, is rendered obvious in many ways to those who observe carefully, and with a view to that object, the phenomena of disease. That the balance between the circulation, on the one hand, and the sustaining powers of the vessels, on the other, is destroyed, becomes evident. Whether this arises from diminution of nervous influence, from attenuation of the vascular and other structures, or from the tenuity of the circulating fluid itself, may be a question of uncertainty, but from one or more of these causes, phenomena are produced which are the consequence of the laws of vitality having succumbed to the law of gravitation. The influence of life in preserving the tone and integrity of the soft tissues is destroyed, and those parts which are in the most depending situations, as the back, fall into a state of hyperæmia, even while the vital powers are weakened only, not destroyed. Of the afflux of blood, from the effect of gravitation during life, you have seen striking examples in patients during the last stage of typhus fever.

That hyperæmia takes place after death, from mere gravitation, we have constant evidence in the livid appearance of the depending parts of patients who come under our notice after death, in the post-mortem room, and that it is a post-mortem change you have had opportunities of witnessing.

First, in those patients who immediately after their death have been placed on the face and abdomen, in which case the anterior parts of the body have become the situation of hyperæmia; and in those bodies which, upon change of position, have exhibited a corresponding change in the situation of the discoloured part, the hyperæmia having passed from that which had been the depending part to that which was subsequently made so; and, as you recollect, we have exemplified the same thing by keeping one arm and hand of the subject elevated above the body, while the other has depended over the edge of the table towards the ground.

It is desirable that you should clearly understand this influence of the laws of gravitation in reference both to the dying and the dead, and that you should retain it in your recollection, for we shall have occasion to recur to it hereafter, as one of the general principles upon which some, and, indeed, not a few, of the pseudo-morbid appearances will have to be explained.

This species of pseudo-morbid appearance corresponds with the *engoument de position* of Andral.

The influence of the second cause, viz., muscular exertion in the agonies of death, although far less obvious, is not less certain. In some instances the struggles are severe, and the muscular contractions which take place necessarily occasion undue determination to some parts, and undue retention in others,—irregularities which the parts themselves have not the power either to resist or to compensate, and they consequently become the seat of hyperæmia, or congestion.

We can have no difficulty in conceiving that the character of the preceding disease; the force and the duration of the struggles, and the greater or less fluidity of the blood, must have considerable effect in determining the degree of such results as may be produced.

The "*Pneumonie des Agonisants*" of Laennec has its origin in this kind of local hyperæmia.

The third variety of pseudo-morbid appearances, the reflux of venous blood after death, has a cause altogether different from gravitation, and, indeed, one which is capable of counteracting its influence entirely; wherefore we often see the result of this reflux in parts *not* dependant.

In some instances prior to death, and in most soon after, evolutions of flatus take place, which occupy and distend, in a greater or less degree, the stomach and intestines. Thus, pressure is produced on all the surrounding parts; those parts which are capable of yielding, yield. It is obvious in the elevation of the abdomen, and although not obvious otherwise than by its effects, it is, nevertheless, certain, that the diaphragm participates in the general distention, and yields also; the cavity of the thorax is proportionably diminished; the effect of the pressure is communicated to the heart and large vessels within the chest; their contents also retire, and are forced back upon the vessels of the neck, the adjacent parts of the thorax, and the head, all of which become filled, giving rise to extensive congestions. Hence, cadaveric discolorations, even more intense than those from the gravitations of which we have spoken, are produced, and the parts I have named are those in which such discolorations from reflux of blood are first perceived.

It will now be necessary that we notice those post-mortem appearances which I have alluded to as being of a character intermediate to the strictly pseudo-morbid and the morbid, and which I have called the relatively pseudo-morbid, in contradistinction to the positively pseudo-morbid.

They are not the consequence of diseases the results of which they resemble, nor of any disease in *the part* where they are found; yet, having their origin in anormal condition *of other* parts, are not so distinctly *pseudo*-morbid as those just described. For practical purposes, however,—for the purpose of determining whether any given appearance resembling that of a specific disease is really the effect of such disease, or whether it is not wholly an independent appearance, it is necessary that we should consider it (with relation to such investigation) a pseudo-morbid appearance.

Structural changes of this character may be classed under two heads,—

1st. The active; which we have described as being caused by the performance of vital functions during life.

2d. The passive; which we have described as being caused by obstruction to the return of blood through other parts.

The active are those which arise from augmented force of the heart's contractions, occasioning, by increase of impetus, increase of determination of blood to any individual viscus, or structure, and imparting to it fulness of vessels, which, after death, have the appearance of hyperæmia from local disease. An instance you witnessed in the case of Smith, in whom hypertrophy of the heart was the disease, and congestion of the membranes of the brain the consequence.

We now come to consider the passive appearances of this class, arising from obstruction to the return of venous blood through other parts.

It is not at all uncommon to find hyperæmia resembling the hyperæmia of local disease, in tissues essentially healthy, but produced by obstructed circulation in vessels more or less distant from the seat of obstruction. These congestions occur most frequently in the capillaries of such veins as are without valves, as the vena portæ; indeed, the twofold circumstance of the liver being a viscus prone to changes in its parenchyma calculated to militate against free circulation through its numerous and important channels, and the vena porta being a vessel prone, from the absence of valves, to favour regurgitation, the viscera of the abdominal cavity are frequently involved in the congestions caused by obstruction.

The lungs, also, are extremely obnoxious to this kind of congestion, the pulmonary veins being also without valves, and being immediately overloaded in the event of a difficult transit of the blood out of the left cavities of the heart.

Amongst the causes of hyperæmia from obstructed return of venous blood, may be enumerated adventitious growth, of whatever kind, in the course of large vessels, as tumours, exostoses, and others, obstructing by their pressure the free circulation which, in order to preserve the equilibrium of the whole, is essential in each individual part.

There is yet a species of pseudo-morbid appearance which cannot, with strict propriety, be included in either of the subdivisions I have described. It is not the consequence of *morbidly* active circulation, as in the first, nor of passively obstructed circulation, as in the second; but it is the result of both a healthy state and a healthy action in the part where it is found, yet occasionally presenting, after death, a degree of hyperæmia which may be mistaken for the effect of disease. The stomach presents a strong example of this; it may have an appearance of turgescence and congestion from the mere excitement of functions which are purely natural to it. The sensations of hunger, on the one hand, and the process of digestion, on the other, both give rise to an appearance of florid vascularity which strongly resembles the result of inflammation, and which persists long after death.

It can scarcely be necessary that I should press upon your attention the importance of these distinctions, or how necessary it is to discriminate accurately, for example, between hyperæmia, the consequence of gastritis or enteritis, whether the effect of natural disease or of deleterious agents improperly administered, and hyperæmia the consequence of too powerful action of the heart, obstructed return of venous blood, of gravitation, or of a natural and healthy process, such as that I have just described. Neither need I remind you of the close connection which such distinctions have with pathology, not only as part of your present clinical study, but as part, also, of those objects which more especially have reference to your forensic studies, and preparation for the important duties which as medical jurists, you may hereafter be called on to perform.

We have next to recollect that the changes of decomposition are changes in the chemical relations of every particle, both solid and fluid, of which the body is constituted. All the affinities which had influence in life are broken up, and phenomena purely physical, are the result; in some cases evincing themselves in an incredibly short time, and in others not being visible until a considerable interval of time.

The circumstances which determine the period may be divided into,—
1st. Those that relate to the body itself;
2d. Those that relate to the medium by which it is surrounded.

Those that relate to the body itself may be divided into general and especial:
The general are,—age, habit, kind of death;
The especial are,—peculiarity of structure in its natural state;
Peculiarity of structure in relation to adventitious circumstances during life.

Those that relate to the medium by which the body may be surrounded are,—
Season of the year;
Peculiar state of the atmosphere;
Modification of the atmosphere by local and peculiar circumstances;
Immersion of the body in any other medium than the atmosphere.

Either of these must influence the changes in a greater or less degree.

The process of decomposition from its first step, tends to the softening and rendering less firm the various tissues of the body, and amongst these the membranes, more or less dense, which in some instances line, and in others invest, tissues of a less compact and looser structure. The result of this change is, that they become, themselves, more porous, and not only permit transudation, which they resisted before, but become active agents in imbibition, and the means of communication with cavities previously either quite or nearly inaccessible to the fluids of the body.

With a recollection, then, of these general principles in our mind, we may proceed to describe some of the post-mortem appearances which we so frequently meet with, and endeavour to distinguish those that are the result of disease, and those that are the result of one or other of the agencies of which we have spoken. —*Lancet.*

ANIMAL ELECTRICITY.*

The subject of organic electricity, or of electricity in connexion with organized bodies, may be considered in two points of view: 1st, as it relates to the influence of electricity considered as a purely physical agent upon organized living bodies; and 2dly, as respects the electric force generated within or manifested by the organized structure itself. These two heads of inquiry are, to a certain extent at least, inseparable from each other; and the treatise before us would have been more satisfactory, as well as conceived in a more philosophical spirit, had it comprehended both branches of the subject, instead of being limited to the latter alone. The object of M. Coudret seems to have been partly to make known a new method of applying electricity as a therapeutic agent—for such in fact, allowing full force to his statements, is the correct exposition of the process adopted—and partly to develop the principles upon which, as he thinks, this remedial application rests. That he is disposed to extend these principles to a very high degree of generalization may be inferred from the motto prefixed to the *Considérations générales*, which, with singular näiveté, he quotes from himself: "*Si le sang est le véritable aliment de la vie, le fluide électrique en est le premier moteur.*" But, however he may be disposed to felicitate himself upon the announcement of this law, the readers of the works of Abernethy and Wilson Philip will scarcely recognise M. Coudret as the founder of the electro-vital physiology. The results of previous investigations, which appear to M. Coudret as the more essential to be borne in mind, before entering upon those which are especially his own, are, "1st, that the nerves are actual organic conductors; 2dly, that electricity is to be considered as the motive principle or agent thereof; 3dly, that they present, as in the case of galvanic apparatus, two entirely different and distinct orders of currents; lastly, that one of these currents, appropriated to the functions of sensibility and intelligence, passes from the internal and external senses to the brain; the other, devoted to the nutritive and locomotive functions, is directed, on the contrary, from the brain or, if you will, from the spinal marrow to the several parts of the muscular system and of the vast sanguineo-capillary apparatus." (p. 8.) Passing over the first, third, and fourth of these propositions, the third of which we may, however, remark is unnecessarily complicated with the introduction of the loose analogy attempted to be inferred between the nervous system and a galvanic apparatus, we proceed to the examination of the second—that electricity is to be considered as the motive principle or agent of the nerves.

After stating the modern discoveries of the separate functions of the nerves of sensation and the nerves of motion, which he attributes entirely to M. Magendie, without the slightest reference to Sir Charles Bell or the other numerous cultivators of the same field of experimental research, M. Coudret brings forward his fundamental and essential facts, upon which, as he conceives, these propositions, and more especially the second of them, are established. These facts are, 1st, the well-known experiments of Galvani on the frog; 2d, the excitement of muscular motions by means of a galvanic current passed through the nerves, by which the muscles are respectively supplied; 3d, the production of muscular motion, in animals recently deprived of life, by mechanical irritation of the spinal marrow or the trunk of a motor nerve; and, lastly, the effects produced on aliment received into the stomach by division of the pneumogastric nerves, and the subsequent reëstablishment of the connexion with the brain by apposition of the divided extremities of the nerves or by the interposition of a small metallic plate. This experiment has been modified by the introduction of a non-conductor between the divided ends of the nerves, in which case the food remained undigested as before, though when a metallic plate was used as the means of communication, the process of digestion went on with little or no interruption. Here again we have no mention made of Dr. Wilson Philip, to whom we owe the experiment in its original form; we must, however, do M. Coudret the justice to believe that the omission is entirely the effect of ignorance, since, in his relation of the experiment, he omits the only circumstance which renders it of any avail for the purposes for which it is referred to. The effects resulting from the renewed contact of the divided ends of the nerves only show that the nervous connexion is reëstablished, and the effects of the interposition of the metallic plate merely tend to prove that the nervous influence, whatever that may be, is capable of being transmitted along the surface or through the substance of the metal, not that it is identical with or analogous to any other agent of which metals are conductors. Dr. Philip's experiment of the substitution of a galvanic current for the nervous influence and the effects thereof upon the aliment contained in the stomach are much more to the point, as they lead to the establishment of an analogy, at least, between the nervous and galvanic forces. We cannot, however, dwell further upon these points; nor need we quote the very hasty, unauthorized, and erroneous conclusions deduced from them by M. Coudret. The last of these is thus enunciated: "If in the question," he observes, "before us, as in the analysis of all possible phenomena, we must rigorously judge of the identity of the causes by the identity of the effects, we cannot henceforth doubt that the nervous agent and the electric agent are two principles perfectly identical." (p. 15.)

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* Recherches Medico-physiologiques sur l' Electricite Animale. Par J. F. Coudret, M. D., etc.—Paris, 1837. 8vo. pp. 496. Plates.

Medico-physiological Researches upon Animal Electricity. By J. F. Coudret, M.D., etc.—Paris, 1837.

M. Coudret briefly alludes to the recent researches of MM. Dutrochet and Donné upon animal electricity, from which these gentlemen are disposed to conclude the existence of electric currents within the organs of the body; but he makes no mention of the many curious particulars to be found in ancient and foreign authors. The development of electricity upon the surface of certain animal bodies in consequence of friction, is a well-ascertained fact, and has probably given rise to some of the fictions of classical writers. Instances of the emission of sparks on stroking or combing the hair, and on friction of the surface of the body by the clothes, are mentioned by Cardan, Scaliger, Faber, Bartholinus, Fortunius Licetus, Gesner, Beccaria, &c. Ezekiel di Castro relates the case of a lady of Verona, resembling, in several respects, the singular one quoted from an American Journal in a recent number of this Review (*Br. and For. Med. Rev.*, Vol. VI., p. 249). "As often as she touched her body, even in a slight manner, with a linen cloth, it emitted sparks in great abundance, which could be perceived by every person standing near her, and were attended with considerable noise. Her maids were often deceived by this phenomenon, and believed that they had, through carelessness, dropped some coals between the sheets, as she always caused her bed to be warmed in winter, at which time the sparks were most abundant and strongest."* These are, obviously, instances of the development of electricity without the body; and, accordingly, Saussure, who has investigated the subject of animal electricity, found that he could obtain no indications of electricity when undressed; but Hemmer, who instituted a lengthened series of experiments, both upon himself and upon several other individuals, has arrived at a different conclusion; and from these experiments it would appear that the development of electricity, although varying in intensity in different individuals, and in the same individual at different times, is yet a general property of the animal economy. For an account of these investigations we must refer to the sixth volume of the Transactions of the Electoral Society of Manheim and to the Philosophical Magazine for 1799.

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* Castro, De igne lambente.

To return to M. Coudret. We find him stating the following propositions as the groundwork of his subsequent investigations: first, "that every painful or inflamed part disengages a notable quantity of electricity;" and secondly, "that every means fitted to withdraw or to neutralize directly this fluid, produces the most salutary and most evident antiphlogistic and sedative effects." It appears that in January, 1833, M. Fozembas, finding himself affected for several days with severe erysipelas of the face, which he had in vain attempted to subdue by the usual means, bethought himself of having recourse to electricity. "Long entertaining the suspicion," says M. Coudret, "with us and with other physiologists of our epoch, that electricity could scarcely be otherwise than concerned in the development of similar phenomena, he resolved to make some experiments with the view of satisfying himself upon this point. Assuming that electricity is in effect one of the essential elements of vital activity, and that by its development in excess it is the principal cause of the morbid phenomena which constitute inflammation, the best means of promoting a return to the state of health should be to seek the establishment, as quickly as possible, of the natural equilibrium of the animal electricity." These means are stated to be bleeding, repose, and regulated diet, which are conceived to act as either directly or indirectly impeding the generation of electricity, and more especially the withdrawing or direct neutralization of the electricity from the inflamed part, whether by means of metallic points in communication with the ground, by topical humid applications, or by immersion of the affected part in a warm bath. All these measures are stated to have been had recourse to without benefit, with the exception of immersion in the bath, which, the face being the part affected, could not be had recourse to, and the application of the metallic points. Having contrived a suitable apparatus, which we shall presently describe, M. Fozembas proceeded to subject himself to a trial of this method. The metallic points of the apparatus were placed opposite to, but not in immediate contact with, the most painful and burning parts of the face.

"After some minutes' application he thought he perceived the commencement of an amelioration; but what made him soon comprehend that this opinion was not an illusion of the imagination was that, at the end of some hours, he could, for the first time, open the eyelids a little and support the impression of light, which until then he had been unable to do. Encouraged by the result of this first trial, he repeated, many times in the day, the application of the apparatus, with the precaution of causing it to act in succession upon the most irritated parts of the face. The effect was so salutary, so sensible, and so quick, that the patient and those by whom he was surrounded could scarcely credit it. Each time that the apparatus was applied for an hour to the same part, it appeared neither so red nor so tense as before, and the heat as well as the sensibility were very much lessened. At length, under the influence of this new method, the irritation and pain diminished with extreme rapidity, and not only was their rapid decrease not injurious to the patient in giving rise to some internal repercussion, but, on the contrary, from this moment the general condition continued to improve, and in a few days the restoration to health became complete." (p. 26.)

The aparatus employed in the case of M. Fozembas, to which the name of the *medical electromotor* is given, is described as follows: 'It consists of a box, which must be of glass or of some other isolating material, varying in size and form according to the configuration of the surface on which it is to be applied and the amount of effect intended to be produced. Deeply placed within the box is a continuous double metallic surface, of which the lower surface only is visible. This lower is set (hérissée) with a great number of very sharp points of steel. A small opening in the summit of the box affords a passage to a conducting cord several feet in length, and intended to effect a communication between the upper metallic surface and the ground. The base of the box by which it should be in connexion with the affected parts, projects a little beyond the steel points, in order that the skin may be constantly protected from the action of these points; and that this protection may be still more effective, a small network of very fine silk is extended across the framework of the base. The apparatus is attached by one or more bands of silk, intended to retain the instrument in exact apposition with the affected parts.

The mode of action of this instrument, admitting the assumption of MM. Fozembas and Coudret that a disturbance of the electric equilibrium is the principal cause of the morbid phenomena which constitutes inflammation, is sufficiently evident, although it is not equally clear that the construction of it above described is either the most philosophical or the most convenient which could have been devised. A much more important consideration here is the ascertaining of the actual existence of the alleged excess of electricity in inflammation. The method adopted by M. Coudret to prove this point is by the application of one of his electromotors upon the inflamed part, the steel points with which the under surface of the instrument is set being brought as near as possible to the skin without actual contact. An electric condenser of Volta is placed at a little distance from the patient and the conductor of the electromotor, made as short as possible and terminated by a little ball of sealing-wax, brought into contact with the superior plate of the condenser, whilst the inferior plate of the same apparatus is placed in communication with the ground. In a few minutes, interrupting the communication of the condenser with the ground and preserving at the same time the connexion of its superior plate with the electromotor, the two plates of the condenser are to be carefully separated; at the moment of this separation, the gold leaves of an electromotor which is connected with the inferior plate of the condensing apparatus will diverge, "at least," says M. Coudret, "provided no accidental cause should arise to disturb the operation and neutralize its results." The operation is one of considerable nicety and liable to numerous sources of fallacy, not the least of which is the generation of a sufficient amount of electricity to cause the divergence of the gold leaves by the friction of the plates of the condenser upon each other in the act of separation. M. Biot remarks that great attention also should be paid to avoid friction in bringing the plates of the condenser into contact, since the friction will develop a certain portion of electricity in the plates themselves which adheres strongly to them and may subsequently occasion errors in delicate experiments. Another source of fallacy is that the connexion between the inferior plate of the condenser and the ground is established by means of an assistant who places one of his fingers, "slightly moistened with saliva," in immediate contact with the lower surface of this plate. "The assistant," says M. Coudret, "destined thus to perform the functions of a conductor should be in good health, have his hands clean, and stand upon a perfect conductor of electricity, consequently by no means waxed," as is generally the case with the floors and much of the furniture in French houses; and again, "it has been demonstrated to us by a great number of observations, that if the hands of the assistant thus performing the office of a conductor are hot and dry, he may himself furnish electricity to the condenser instead of withdrawing it, and consequently vitiate the experiment." In such cases an ordinary metallic conductor is recommended to be substituted, but it must be observed that, as far as the theory is concerned, a doubt is thus thrown over the whole of M. Coudret's experiments and observations, since we have no means of ascertaining in what proportion of them these extra precautions were had recourse to. It is perhaps scarcely necessary, keeping these considerations in view, to relate any of the experiments; but as the second series narrated by M. Coudret was performed in the presence of M. Piorry, who, it may be presumed, would have pointed out any notable source of fallacy, it is but justice towards the author to mention the most striking of them, although even here we notice that the communication of the electric condenser with the ground was kept up "au moyen du doigt mouillé d'un aide."—Exp. 7. Erysipelas of the face: electromotor applied upon the right cheek and placed in contact with Volta's electrometer. At the end of two minutes and a half, separation of the gold leaves to the extent of a full inch.—Exp. 8. The same result from the left cheek; venesection immediately performed and the electromotor applied. At the expiration of two minutes and a half, separation of the gold leaves to the extent of five lines only.—Exp. 10. Electromotor applied to the epigastrium of M. Grossetête, a student of medicine enjoying good health, but having the epigastric region very hot. The gold leaves of the electrometer separated to the extent of four lines.—Exp. 11. Performed on M. Belonius, also a medical pupil, possessed, as he stated, of strong magnetic powers (d'une force magnétique prononcée). Electromotor applied for two minutes on the right hand, which was excessively dry, but of a temperature but slightly elevated. Separation of the leaves to nearly four lines. On the epigastrium of the same subject the separation was nearly the same as on the hand, though the temperature seemed rather less, at least to the touch.

From a careful examination of the experiments above referred to, as well as others related by M. Coudret, it does not appear to us, setting aside the obvious sources of fallacy to which we have already alluded, that the effects upon the electrometer are necessarily to be attributed to the generation or accumulation of electricity in inflamed parts; or, indeed, that they were at all connected with a purely electric condition, even of the mere surface of the body. The recent researches into thermo-electricity would seem to afford sufficient grounds for attributing the electric effects observed to the induction of electricity by heat alone. M. Becquerel conceives that "whenever a particle of a metal is heated, part of the neutral electric fluid which is attached to it is decomposed, the vitreous fluid being retained, and the resinous driven off and passing into the adjoining particles. In proportion as the heat extends by communication from particle to particle, similar effects take place in each of those that are acquiring heat, and the contrary in those that are losing it. Thus the first effect is only to produce an oscillatory movement of the electric fluid between the adjacent particles; but if the source of heat be permanent, the retrograde movements are prevented, and a continued current takes place."* In the second volume of the Annales de Chimie et du Physique is a paper by M. Dessaignes, in which several curious experiments are related, also tending to prove the development of electricity in metallic bodies, merely by change of temperature, some of which are remarkably analogous to the recent investigations connected with thermo-electricity. In confirmation of the view here advanced, we may state that a similar idea seems to have suggested itself to M. Piorry; for we find M. Coudret "wishing to show to M. Piorry, first, that the electromotor employed to prove the presence of animal electricity, did not of itself develop electricity; secondly, that the action of the temperature of the human body upon this apparatus could not be considered as the cause of the phenomenon:" and then proceeding to perform certain experiments upon other heated bodies, which, however, do not appear to us by any means calculated to meet the objection.

Assuming the explanation which we have here given to be correct, the electromotor of M. Coudret is in fact a thermo-electric apparatus, and being placed in connexion with the heated surface of the human body, induction of electricity by heat ensues. The electricity thus developed is conducted to the condenser, and, according to the preceding statement of the views of M. Becquerel, should be of the resinous or negative kind. Now this is precisely what M. Coudret found to be the case: "everything," he says, "leads us to consider as certain that the electric-fluid condensed in our inflamed tissues is always negative;" or, in other words, that the electricity manifested by the electrometer in connexion with an electromotor placed over inflamed parts is in all cases negative. According to these views then, the electricity is generated in the apparatus itself by means of heat, the negative fluid being conveyed off towards the ground, and, if any interchange takes place between the surface of the body and the instrument, the vitreous or positive fluid being communicated to the part over which the instrument is applied, affording thus, as we stated at the commencement of this article, a new method of applying electricity, as a therapeutic agent.

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* Report on Thermo-electricity. By Professor Cumming. Proceedings of British Association for 1832.

One other observation may be made respecting what may be termed the physiological effects of electricity before turning our attention to the practical part of the subject. "In a vast number of cases," says M. Coudret, "but especially when the instrument is applied to the head, a general moisture arises, and at the same time a drowsiness or sleep more or less profound; in some circumstances this moisture does not extend much beyond the small space occupied by the instrument and is not accompanied by sleep." How far the drowsiness or sleep here alluded to is the effect of the application of the remedy, or whether it is to be attributed to a strong impulse on the imagination of the patient, is perhaps questionable, but its analogy with the coma developed in the course of the manipulations of animal magnetism cannot fail to suggest itself. The moisture or perspiration, whether general or local, is no more than what has been noticed in the communication of electricity by other modes. The Abbé Nollet found, by correct statistical experiments, that an electric current communicated to a living animal for a considerable time greatly increased the amount of perspiration; and Van Marum, Read, and others have noticed the same. From the consideration of these and other facts, we are led to conclude that the communication of electricity in the mode recommended by M. Coudret, tends to increase the capillary circulation, and therefore that, in accordance with the views of the intimate nature of inflammation entertained by Dr. Hastings* and others, it enables the capillary vessels to unload themselves of their contents, thus relieving that state of inaction and consequent congestion, which, according to these authorities, constitutes the proximate cause, or rather the very essence of inflammation. Upon these principles we shall have no difficulty in understanding and accounting for the therapeutical effects of M. Coudret's method of applying this remedial agent.

A considerable portion of the treatise before us is occupied with the narration of cases of ophthalmia, erysipelas, cephalalgia, hemicrania, and other cerebral affections, catamenial disorders, rheumatic, neuralgic, and other painful affections, &c., in the greater number of which the electromotor is extolled as a heroic remedy. It appears, however, to occupy in these cases precisely the place which stimulant applications to the eye do in certain states of ophthalmia, as the subjoined note of the author on the case of M. Fozembas sufficiently testifies. The rapidity of the cure in this case was owing to the patient having been prepared for the remedy by the debilitating means and regimen previously employed. "*In every case where sanguineous plethora exists, it must in the first instance be removed, either by bleeding or starvation* (*diète sévère*); as soon as the irritation becomes merely local, the electromotor produces the most remarkable effects." We had marked one or two of the cases for quotation, but as they are mostly similar in their general features to that of M. Fozembas, already noticed, we have the less hesitation in passing them over. The concluding pages, amounting to about one-fifth of the whole work, are occupied with hypothetical considerations founded on the electro-medical system. They relate to the classification of medicines upon electro-medical principles, and embrace certain views in connexion with the same upon sensibility and sensation, on the nature and origin of cholera, on temperaments, aliment and drinks, atmospheric air, clothing, &c.—*Brit. and For. Med. Rev.*

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* Treatise on Inflammation of the Mucous Membrane of the Lungs.

ANATOMY AND PHYSIOLOGY.*

ON THE PHYSIOLOGY OF NUTRITION.

BY J. F. SIMON.

The following experiments were undertaken with a view to determine whether the stomach of the child possesses the same properties of coagulating milk as the stomach of the calf.

I. A piece of the stomach of a child, which had died immediately after birth, was introduced into a dish containing cow's milk. Into a second dish, containing an equal quantity of milk, a portion of a calf's stomach was introduced; and a third dish contained milk, without any addition. The three vessels were placed in the water-bath, at a temperature of 30° R. In twenty-eight minutes the milk containing the calf's stomach had coagulated, but that in the other two dishes, after the lapse of an hour, remained uncoagulated. These two dishes were left standing during the night in a temperature of 17° R.; in the morning the milk containing the portion of child's stomach was still uncoagulated; that in the other dish had coagulated from acidity.

II. A portion of the stomach of a child, five days old, having beeen previously well washed, was introduced into cow's milk, as in the preceding experiment, with a like result. A quantity of the colostrum of the child's mother was then obtained and divided into three portions of about six drachms each. Into one portion a piece of the child's stomach was introduced, into another a piece of calf's stomach, and to the third no addition was made. The milk of the first and second portions began to coagulate nearly at the same time; but the coagulum of the first was firmer and the whey clearer than those of the other. The third portion did not coagulate. From these experiments it is inferred that the stomach of a mammæ is adapted for the coagulation and digestion of the milk of its own species only.

III. Into each of three test tubes a portion of curd of cow's milk, coagulated by runnet, from which the whey had been expressed, was introduced. The curd, in two of the glasses, was covered by a piece of fresh calf's stomach, and in the third by a piece of child's stomach. A fourth glass contained a portion of the curd of woman's milk, coagulated by the stomach of a child. Into each of the glasses a quantity of acidulated water was now poured, and they were placed in the temperature of 30° R. In an hour and a half artificial digestion commenced in all four glasses; and in nineteen hours the curd of the fourth glass was, with the exception of a few flakes, completely dissolved. In twenty-three and twenty-four hours the first and second glasses had advanced to an equal stage; but at the end of thirty hours, when the experiment was broken off, the curd contained in the third glass was still not fully dissolved. It should be remarked, however, that the quantity of curd in the third glass was only about a third of that contained in each of the others; but the portion of stomach was small in proportion. Experiment showed that the casein is changed by the artificial digestion into albumen. The solution of the curd coagulated on the application of heat, and comported itself towards the chemical reagents precisely as albumen.—*Müller's Archiv.* Heft. i. 1839.

ON THE PRODUCTION OF UREA IN THE ANIMAL BODY.*

BY DR. R. MARCHAND.

The following experiments were undertaken with a view to determine whether urea can be detected in the blood of an animal which has fasted for several days. With a view to lessen the cruelty of the experiment, Dr. Marchand fed the animal upon pure candi-sugar, a substance which contains no nitrogen, and which could therefore exert no influence upon the result of the experiments.

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* Brit. and For. Med. Rev.

A large and powerful shepherd's dog was fed for fourteen days upon milk, in order to ascertain the quantity of urea contained in the urine of an animal thus simply nourished. During the first five days the quantity was 2.6 per cent.; during the next five days it was 3 per cent., at which figure it remained during the rest of the experiment. The animal was now fed upon pure sugar and distilled water, and it consumed daily about 10 oz. sugar. During the first six days the urine contained 2.8 per cent. urea; in the next five days the quantity was 2.4 per cent.; and in the next five 1.8 per cent. The animal was now very weak and lean, but there were no ulcerations of the cornea. The diet was again changed, and the dog was fed on milk and bouillon; but the increase of the quantity of urea did not correspond with the rapidity with which the animal recovered its flesh. The quantity of urea was only 2.4 per cent. after the dog had recovered its former good condition, and it did not regain its full proportion of 3.2 to 3.35 per cent. for some days afterwards. Sugar and water were again given, and in eight days the proportion of urea was 2 per cent. The abdomen of the animal was now laid open, and a ligature was applied to the renal nerves, an operation which Dr. Marchand regards as equivalent to extirpation of the kidneys. The incisions soon healed, and nothing remarkable occurred for six days, when vomiting ensued, but the matter vomited was too small in quantity to allow of chemical examination. Ten days after the operation the jugular vein was opened, 3lbs. of blood were taken, and the animal died immediately. The blood yielded 4.88 grammes of nitrate of urea.

Dr. Marchand is of opinion that urea exists in the blood in the healthy state, although in extremely minute quantities. The nicest test for the detection of urea is the crystillization of choride of sodium in octoedrons, which ensues, when it is present. Dr. M. found that $\frac{1}{10}$ or $\frac{1}{20}$ urea dissolved in 100 to 150 parts of water was sufficient to cause the production of at least some octoedral crystals of the salt; and, as yet urea is the only substance which we know to possess this property. Twenty pounds of the serum of cow's blood, treated with alcohol, to free it from albumen, and then evaporated to dryness, gave a residue which was exhausted with alcohol and again evaporated. The residue thus obtained, on being dissolved in water and mixed with salt, caused it to crystallize in octoedrons.—*Idem.*

ON THE DISPOSITION OF THE BLOOD-VESSELS IN THE SKIN OF SMALL-POX PATIENTS.

BY PROFESSOR SEBASTIAN, OF GRONINGEN.

ERUPTIONS of the skin, properly so called, have their seat in the dermis, and are covered by a healthy, transparent epidermis. Such are the various exanthemata and other pustular, vesicular, and papular eruptions.

In the short paper before us Dr. Sebastian's object is to investigate the cause why, in such eruptions, the epidermis is separated from the dermis only in certain circumscribed portions, to form pustules or vesicles, and to point out the abnormal changes which take place in the dermis. With this view he injected portions of the skin of patients who had died during the height of small-pox, with a penetrating injection, and submitted them to examination after being deprived of the epidermis, and otherwise prepared, generally by being dried, and saturated with turpentine.

He found the sites of the individual pocks highly injected, and the vessels forming a fine, vascular network, corresponding in extent with the area of the pock, and separated from the skin on which no pocks had existed by two larger vessels, which encircled the site of the pock, and which, by giving off branches running towards a common centre, formed the vascular network. This vascular expansion may also be formed by branches derived from one vessel only, and the merging of several smaller into one larger expansion is the cause of confluent small-pox.

The result of this examination Dr. Sebastian considers as tending to remove the difficulties of the question. In consequence of the cause which produces small-pox a greater flow of blood takes place towards the skin, which by-and-by becomes inflamed, and the inflammation concentrates itself in certain circumscribed portions; these in a short time begin to secrete a serous fluid, which, as the inflammation increases, becomes purulent. The nature of the eruption depends, therefore, upon the vascular state of the dermis, but the cause which produces this peculiar vascular condition is as obscure as ever. Professor Sebastian leaves the question undecided whether the vascular network is a new formation, or whether it is the result of the greater injection of vessels already existing.—*Idem*, from *Nat. Tijds*. 1. 2. 1838.

OBSERVATIONS REGARDING THE REPRODUCTION OF THE LENS.

BY DR. PAULI, OF LANDAU.

Dr. Pauli, being of opinion that the experiments made as to the regeneration of the lens had yielded contradictory results, because animals of too small a size had been chosen for the operation, and extraction, the only mode of operating here admissible, had not been performed with sufficient care and circumspection, resolved to try what could be done by taking the larger domestic animals for the subject of his experiments. He accordingly extracted the lenses in an old hound (Jagdhund) and in a bull. The former was killed 163 days, and the latter 211 days after the operations. "On examination I found," says Dr. Pauli, "in the right eye of the hound no trace either of capsule or lens. Behind the lower margin of the uvea there appeared to be some crystalline flakes; but I will not assert this positively. In the left eye there was in the situation of the lens a body similar to that which had been extracted, but softer and smaller; it was transparent. At the incision in the capsule the new lens was more flattened; the edges of the incision in the capsule appeared somewhat drawn into the new substance, and more firmly connected with it than in the rest of the circumference of the capsule. In both eyes of the bull I found nearly the same changes. The size of the new lens was not, however, much more than the half of that which had been extracted, but it was firmer and denser than that in the left eye of the hound —a circumstance which might be owing to the hound having been killed about two months sooner than the bull. The edges of the incision in the interior wall of the capsule were, as in the hound, apparently inclined towards the new lens, and less easily separable from it than at other places. Both animals retained vision until their death."—*Idem*, from *Monatschrift für Medicin*, *&c. Jan. and Feb.* 1839.

ON THE EPISTERNAL BONES.

BY G. BRESCHET,

Professor of Anatomy at the School of Medicine, Paris.

M. Breschet has discovered two new bones, which form part of the sternum, and are situated upon its superior and lateral part. In the young subject they are attached to the sternum by a synovial membrane and a fibrous capsule. They have somewhat the appearance of the pisiform bones, but of a greater size. In the adult these two episternal bones are anchylosed with the sternum, but the line of separation is distinct. These bones are not regularly rounded, but are flattened where they look towards the sternum.

Breschet considers these bones to be analogous to the episternal bone of the ornithorrynchus, ant-eater, and armadillo. The latter bone was described by Meckel, Rudolphi, and others: it articulates with the scapula. The episternal bone of the human subject is considered by M. Breschet to be the rudiments of the cartilage of the thirteenth rib, which is not unfrequently met with. It does not properly belong to the sternum, and is formed independently of it, but is soon anchylosed with it, as is the cartilage of the first rib. This episternal bone in the *Bradypus Tridactylus* is continuous with the sternum anteriorly, and posteriorly with the costal element of the seventh cervical vertebra; in this manner an additional rib is formed, and that at the expense of the last cervical vertebra, which has been generally considered as appertaining to the dorsal region.—*Idem*, from *Annales des Sciences Naturelles. August*, 1838.

HISTORY OF THE LAST ILLNESS OF M. BROUSSAIS.

It would seem that, after the death of the illustrious medical reformer, various reports were in circulation that his disease had been mismanaged, and that his health and constitution had suffered more from the medical means that had been employed, than from the severity of the malady itself. M. Amussat, his medical attendant, has therefore felt himself called upon to exculpate himself, by laying before the medical public a detailed report of his distinguished patient's case, and of the practice which he had pursued in treating it. The case is an instructive one, and the abridged report, which we propose to lay before our readers, may probably interest them on more than one account.

For many years M. Broussais had been subject occasionally to attacks of severe pain, situated apparently in the pyloric extremity of the stomach, and of diarrhœa recurring at intervals. His appetite and digestion, however, were almost uniformly good.

During the last two years or so of his life, he had experienced a gradually increasing difficulty in the evacuation of the bowels; and, at the same time, pains at the neck of the bladder, and some degrees of dysentery were frequently experienced. In April, 1838, he first consulted his friend, M. Amussat, who ascertained, by examination, that the anterior wall of the lower part of the rectum was hard, thickened, and knobby, and who (he tells us himself) augured unfavourably of the case from his very first visit, although he assured his friend that his disease was only hæmorrhoids, and would be easily cured by means of ligature.

In consequence, however, of M. Broussais' objections to any operation, the use only of bougies, for the purpose of dilating the gut, was resorted to. Considerable relief was obtained from this practice. A few weeks subsequently, M. Amussat, believing that more active measures were necessary, requested that MM. Breschet and Sanson be called in to consult with him upon the case. It was agreed that the same treatment should be continued as hitherto, and that, if the vegetations on the gut increased much in size, recourse should be had to the use of the ligature and of caustic.

In July, the largest one of the tumours or vegetations, which was constantly protruded with a good deal of distress at each evacuation, was tied: it quickly came away, and the patient was considerably relieved in consequence. A few days after this operation, another tumour, in every respect like the preceding one, began to cause the same uneasiness; and M. Amussat therefore resolved to get rid of it also by ligature.

It would seem, however, that the state of the parts was at this time even more unfavourable than it had been; for it is mentioned in the report;—"the disease had attacked the entire circumference of the bowel, and had reached down to the sphincter; the mucous membrane was observed to be of a shining, yellow colour, and to be much altered in its texture." A ligature was applied to the other tumour; but, as it could not be put high enough up so as to surround its base, M. Amussat attempted to destroy the pedicle by squeezing it between the blades of a pair of forceps.

This operation did not cause much uneasiness; but the examination of the gut afterwards was acutely painful. The bougies and tents were again had recourse to.

On the 13th of August, a small vegetation, which was constricted by the sphincter, was excised.

The report continues:—

"The inferior orifice of the rectum had been cleared from all obstructions, and was now readily dilatable. Not so, however, with the diseased portion of the gut. As already stated, the carcinomatous affection had attacked its whole circumference, and the diameter of the passage was so much diminished at the upper part, that the alvine evacuations could scarcely pass through. Enemata produced little or no benefit; and it was only by the use of the bougies and of purgative medicines that the bowels could be relieved."

As the vegetations appeared to be re-forming, M. Amussat began at this time to apply lunar-caustic to the inferior constricted part of the gut, and chiefly to its posterior wall, with the view, says he, *de detourner l'irritation qui se propageait à la vessie.* The urinary distress was speedily much relieved: Broussais himself has noted in his diary at this time, *Je n'ai plus de spasme dans la vessie; quand il y a de l'urine, je la rends.*

During the next four weeks, the free application of the caustic* to the diseased surface of the rectum was made four or five times: upon one or two occasions it caused very great pain.

During all this time, the patient seems to have been becoming weaker: his feet began to swell, and little or no progress had been made in widening the passage of the rectum. Indeed it is stated in the report of the case by M. Amussat, that on exploring the rectum after the eighth application of the caustic, he found the upper opening of the constricted part so much narrowed that the fæculent matter, collected above the point, could not pass through at all.

After this date, M. Broussais went to his country-house at Vitry, expecting that his general health might be improved by the change. He gradually however became weaker and weaker, and on the 16th of Nov., after an ineffectual attempt to relieve his bowels, he fell into an apoplectic stupor, and died in a few hours afterwards.

Dissection. We shall only notice the state of the rectum. The extent of the diseased portion was for about four inches or so from the anus upwards. At one part, the surface exhibited a state of pulpy *ramollissement,* resembling somewhat the appearance of cerebriform degeneration.† The sub-mucous cellular tissue was partially infiltrated with grumous purulent matter.

On the posterior part of the bowel, there was found a rupture of about an inch in extent; but this had taken place when the bowel was drawn away from its attachments.

At no part of the diseased portion was the gut observed to be much constricted: and, judging merely from the *post-mortem* state of the parts, one could never have anticipated the degree of obstruction that had been present during life. The portion, however, of the rectum and of the sigmoid flexure of the colon immediately above or beyond the diseased part, was found to be much more distended than it usually is.—*Gazette Medicale.*

Remarks.—We cannot dismiss the preceding report of M. Broussais' last illness, without expressing our fears that not only no good, but rather that positive mischief, was the result of the treatment that was adopted. M. Amussat is known, we admit, to be an able surgeon; but, like many of his compatriots, he seems to us, judging from his conduct in his friend's case, not yet to have discovered the extreme importance of not doing over-much in certain circumstances, and of leaving a good deal to the kindly efforts of curative nature. If the disease in M. Broussais' case was really of a carcinomatous nature, as alleged in the report, the artificial dilatation of the gut by means of large bougies and the application of caustic to its surface, could not fail to aggravate the evil.

M. Amussat acknowledges that, from the first day that he examined the state of the rectum, his opinion was unfavourable as to the issue of the case. Was it prudent, therefore, with such an impression on his mind, to be meddling so much as he seems to have done all along? It would appear that at one time he even thought of completely excising the diseased parts; but this idea was abandoned after the consultation with Messieurs Breschet and Sanson. It deserves notice too that the former of these eminent surgeons "*m'avait engagé,*" says M. Amussat, "*amicalement à mettre beaucoup de circonspection dans mes operations.*"

Our only motive in thus remarking upon the present case is to caution the young surgeon against the employment of very energetic and hasty measures in the treatment of such a disease as obstruction—especially where it may depend upon a maglignant thickening of the tissues—of any of the mucous openings of the body.

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* M. Amussat had a large *porte-caustique* made on purpose, as the extent of the diseased surface, which it was necessary to cauterise, was so considerable.

† We must not omit to mention that the putrefaction of the body was already considerably advanced when the examination took place.

"Where the obstruction of the rectum is so great as to prevent the exit of the evacuations, there is a last, although a sad resource (says M. Amussat), which may be adopted with the view of preserving the patient's life—viz., the formation of an artificial anus."

The *idea* of such an operation, we should think, is scarcely admissible : we do not remember having ever read a case in British surgery of so hazardous, nay hopeless, an experiment. If the state of the alvine contents be kept uniformly fluid, the obstruction is rarely, or never, so great as to prevent their discharge. We fear that this most necessary precaution was entirely neglected by M. Amussat, as he expressly mentions in his report that, at one of the latest examinations which he made in the case of M. Broussais, he felt with his finger a quantity of fæculent matter collected above the strictured part of the gut.—*Med.-Chir. Rev.*

ON THE SECTION OF THE TENDO-ACHILLIS IN THE TREATMENT OF CLUB-FOOT.

M. Velpeau, in a recent discussion at the Royal Academy on the ætiology of this deformity, alludes to the great success which has attended the operation of dividing the tendo-Achillis. He states that upwards of 500 cases of club-foot have been treated in this munner, and that almost all of them have been cured very quickly and without the least accident. M. Duval (whom we mentioned in our last number, in the article on the Orthopædic Establishments of Paris, *Rev.*) has operated at least 200 times ; Dieffenbach, of Berlin, as often, and MM. Guerin, Bouvier, &c., in a number of instances,—in all with complete success.

"I regard, therefore," he says, "this operation as a *veritable conquete* in surgery."—*Idem.*

NOVEL APPLICATION OF THE MICROSCOPE IN MEDICO-LEGAL EXPERIMENTS.

Dr. Ollivier remarks that the importance of this instrument to the medical jurist was pointed out, twelve years ago, by M. Orfila in his paper "*Du sperme considere sous le point Medico-legal*," published in the third vol. of the Journal de Chimie Med.

More recently MM. Donné and Devergie have shown the valuable assistance which may be derived from its employment in numerous physiological inquiries ; and they have particularly alluded to its utility in detecting the presence of the spermatic fluid either in the urethra and bladder after hanging, &c., or after its emission in cases of suspected violation.

The case, however, in which M. Ollivier first availed himself of the aid of the microscope, was in one of suspected murder. A hatchet was found in the house of a person on whom suspicion had fallen, eight months after the commission of the crime. It had been lying in a damp place and had become partially covered with rust. At one or two places on it were spots which looked like those from dried blood ; and sticking to these places were what seemed to be some fragments of hair.

The following experiments were performed with the view of ascertaining whether there was actually dried blood on the suspected spots, and also whether the hairs in question were human or those of some of the lower animals.

The surface of the hatchet was scraped over water, so that nothing might be lost. At the expiration of some hours, the water was found to remain quite colourless. As the sesqui-oxide of iron (rust) might possibly prevent the solution of the colouring matter of blood, if such was really present, a few drops of liquor potassæ were added ; and the mixture, after being well shaken, was allowed to rest for some time. Still there was no discoloration of the fluid ; and hence M. Ollivier concluded that it did not contain any blood.

The fluid was now filtered, and from the residue* on the paper were picked off with great care the filaments, which certainly looked like portions of human hair. The object was to discover whether these filaments were actually human hair or the hair of some of the lower animals.

For this purpose M. Ollivier examined numerous specimens of human hair, of different colours, with a powerful microscope, in order that he might compare his observations of these with his observations of the filaments in question. The following he ascertained to be the characters of human hair.

1. It has the same thickness throughout, from its base to its point.
2. The medium thickness of a human hair is the $\frac{6}{100}$ of a millimetre.
3. A central canal, forming a line of a less deep colour than the hair itself, may always be perceived.
4. Human hair, whatever be its colour, always exhibits a certain degree of transparency.

Now let us compare these results with the phenomena which the portions of hair on the hatchet presented under the microscope. It should be premised that none of these portions exceeded half an inch in length.

1. Their thickness or diameter diminished sensibly from one extremity to the other; they were all *fusiform*. This character was especially remarkable in one which terminated at one end in a smooth point, and the other end of which exhibited a fringed border, corresponding evidently with the circumference which embraces the bulb or root of the hair: the conical cavity, too, which contains the prolongation of the bulb, was distinctly visible at this end of the hair, and caused it to appear much more translucid than any other part of it.
2. Except in one, none of them exhibited the median line, which indicates the central canal of the hair; they were quite opaque in all their extent.
3. In all, the colour was reddish-yellow, varying only in degree or depth; their texture had not that transparency which the hair, in the former set of experiments, exhibited.

(Probably, the circumstance of the hairs, found on the hatchet, having been so long dried and shrivelled may account for some of the differences alluded to by Dr. Ollivier.—*Rev.*)

4. Lastly, several of them exhibited lateral bulgings or swellings—an appearance never observed on human hair.

From the considerations now mentioned, Dr. Ollivier concluded that the filaments in question were not portions of human hair, but of the hair of some of the lower animals.—*Med. Chir. Rev.*, from *Archives Generales de Medicine.*

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QUESTIONS IN LEGAL MEDICINE, RESPECTING THE SWALLOWING OF PINS AND NEEDLES.

SEVERAL CASES MENTIONED.

A SERVANT girl, 17 years of age, was recently tried at Paris on the charge of having attempted the voluntary homicide of an infant, two months and a half old, by having made it swallow some pins.

The infant had been suddenly seized with a strangling suffocative attack on the 7th of April, and for several successive days it continued to suffer, as if some foreign substance was lodged in the throat.

No cause could be assigned for the symptoms, until on the morning of the 11th, the mother discovered three pins in the alvine evacuations; in the evening other four pins were found; and next morning again three more were seen mixed with the stools. Suspicion having fallen on the servant girl, she was arrested; and she then confessed that she had given ten pins to the infant on the 7th and 8th of the month. On being questioned as to her motive for the deed, she said that she had no unkindness towards the child, and that it was only in the hope of procuring her discharge from the place, and of being permitted to return to her own home.

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* This residue was proved, by means of the hydrochloric acid and of the prussiate of potassa, to consist entirely of a ferruginous oxide.

A plea of temporary alienation or imbecility was set up in her defence. It would seem that, three or four years previously, she had exhibited a partial derangement of mind: and, in reference to the present charge, it was admitted by the father and mother of the child that the girl had been uniformly kind and attentive to her duties. M. Ollivier, who had been appointed by the court to report his opinion upon the medical history of the case, and upon the state of mind of the accused—while he admitted that he could not discover in her responses to question any symptom of mental derangement—was inclined to attribute the present act to one of those unaccountable perverse impulse of the mind, which are not unfrequent in certain females, more especially about their menstrual periods. The girl, it should be stated, although not exhibiting any decided marks of derangement, was of an unusually dull and unimpressionable character, and she seemed to be scarcely aware that she had done anything improper. The jury assented to the opinion of M. Ollivier and acquitted the girl of the charge.

Remarks.—The following extract from M. Dupuytren's Treatise on Gunshot Wounds may be appropriately inserted here. "I have seen at the Hôtel-Dieu a great number of women and children, who had been affected with the strange mania of swallowing pins and needles. The most remarkable case was that of a woman, who, in consequence of having swallowed at different times an incredible number of pins and needles, had become emaciated to a skeleton, and was constantly bed-ridden from the acute sufferings which she experienced upon any movement of the body or limbs. I have opened upwards of a hundred little abscesses in this woman; and at the bottom of every one of these I found one or more needles.

There were always from fifty to sixty of these tumours open in different parts of her body, produced by the presence of these foreign bodies. She died at last from hectic fever. On examining the body after death, several hundred pins and needles were found scattered through the viscera, muscles, cellular substance, &c.; in short, through almost every tissue of the body.

Occasionally the needles or pins have been known to make their way through the skin, without giving rise to any abscesses being formed; and in other cases most of them have been discharged by the rectum, without occasioning almost any annoyance."

Boyer in his large work, remarks: "needles and pins will sometimes traverse the stomach and intestines, and make their way into the liver and mesentery. Most frequently they penetrate the various tissues, without causing pain or inflammation, until they reach the skin in parts more or less removed from the alimentary passages. They have been known in some cases to have made their way into the urinary bladder, and to be discharged with the urine."

One of the most extraordinary cases on record is mentioned in Dupuytren's work already cited.

An officer, labouring under suicidal mania, plunged a long black corking-pin into the region of the heart. It had penetrated the pericardium, and was fixed in the substance of the heart itself, without having caused any alarming symptoms, during a period which could not be ascertained. Nothing had indicated its presence during the life of the patient.

Occasionally it happens, as indeed might be expected, that the needle or pin sticks in some part of the throat, and gives rise to most alarming distress. Many instances of death being caused in this way are related in the works of surgical writers.

Portal mentions a curious case of a youth in a drunken frolic swallowing the fragments of his wine-glass, which he had broken on purpose. Symptoms of violent distress in the stomach coming on, M. Portal gave him first a large quantity of soft-boiled cabbage with the view of entangling and enveloping the sharp pieces of glass, and then an emetic to discharge all the contents of the stomach. The patient quite recovered.—*Med. Chir. Rev.*, from *La Lançette Française.*

M. LEGROUX ON ENDOCARDITIS.

To M. Bouillaud belongs the merit of having first accurately distinguished and described this not unfrequent affection of the heart.

Endocarditis, or inflammation of the lining membrane of the cavities of the heart, is very often met with in acute febrile diseases, either as the primary and essential phenomenon, or as an accessory and consecutive complication. It is frequent in acute rheumatism and also in pneumonia.

A middle-aged, robust, plethoric man was admitted into the *Hôtel-Dieu* last September, with severe articular pains and symptoms of general feverishness. He was bled and put on a low diet. Next day the cardiac region was found to be more extensively dull on percussion than usual, and a distinct *bruit de frottement* was audible. He was bled twice in the course of this day, and cupped over the heart.

For the next two or three days, the patient was better; but the auscultatory phenomena, now mentioned, were unchanged: the bleeding and cupping were ordered to be repeated.

Gradually the dulness on percussion diminished in extent, the *rubbing sound* ceased, but the pulsations of the heart remained strong and vehement. Mercurial frictions on the cardiac region were ordered, and castor oil was exhibited daily.

On the 14th day after his admission, the patient was quite free from all his rheumatic symptoms, and he had in a great measure recovered his strength, notwithstanding the quantity of blood which he had lost. The impulse of the heart was still very strong, and the *first* sound was accompanied with an intense blowing noise (*bruit de soufflet*), which seemed to be prolonged along the course of the aorta.

Now, two opinions might be formed as to the cause of this blowing noise: it might be owing *either* to the great loss of blood, and the state of partial *anæmia* thus induced, *or* to an *endocarditis* affecting chiefly the aortic valves.

M. Legroux, inclining to the latter view of the case, recommended the patient to remain very quiet for a few days, and to have a large blister applied over the region of the heart. Next day the blowing sound accompanying the first beat of the heart had almost vanished, and the impulse of the organ was much less vehement.* Three days subsequently the patient left the hospital, entirely relieved of every rheumatic and cardiac symptom. Had the treatment been less active the foundation of an organic lesion of the heart would probably have been laid.

We have already said that endocarditis may be the primary and essential disease in acute febrile affections. It is therefore of importance never to omit the auscultatory examination of the heart in all such cases, more especially when no particular organ, or system of organs, appears to be specially affected. After the most minute examination of all the great viscera of the body, it often happens that we cannot detect any decided symptom of disease, except an increased force in the impulse of the heart, and a more or less distinct and loud blowing sound, with or without a certain irregularity of the pulse.

A woman, 30 years of age, was admitted into the hospital with all the symptoms of *metritis*, which had been occasioned by exposure to wet and cold during a menstrual period. The application of 30 leeches to the vulva and the use of a hip-bath, had the effect of recalling the menses, and of at once relieving the inflammation of the uterus.

A few days subsequently, this patient was found to be in a state of high fever. With the exception of the heart, no organ was the seat of pain or of any symptom of inflammation: the impulse of the heart was strong, and its first beat was accompanied with intense *bruit de soufflet*. The heart therefore being the only organ *veritablement affecté*, the cause of the fever was attributed to *endocarditis.* An active antiphlogistic treatment, consisting in venesection, cupping, &c., was immediately resorted to, and the disease was speedily arrested. The blowing sound diminished in intensity by degrees and ceased entirely in the course of a few days, notwithstanding the large quantity of blood which had been drawn.

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* Does not the very suddenness, with which the alleged symptoms of valvular endocarditis disappeared, seem to indicate that they were of a *nervous* rather than of an *inflammatory* nature? M. Legroux, be it remembered, is a warm partisan of the Bouillaud school, whose peculiar tenets we have so often of late years alluded to in the pages of this journal.—*Rev.*

A youth had been seized with violent palpitations of the heart after severe exercise during the hot weather of summer. He had been ailing for several months, when he was admitted into the hospital. At this time, his face was flushed, his pulse was rapid and strong, and his breathing was much distressed; there were present the usual symptoms of bronchitis; and superadded to these, the impulse of the heart was found to be abnormally violent, and a loud blowing noise was heard on applying the ear above the left mamma. The patient was speedily relieved by venesection and cupping from all his urgent distress: the blowing noise over the heart continuing, a large blister was applied. In the course of a day or two, this symptom likewise disappeared. It returned, however, and a second blister was applied, and a strong decoction of asparagus was ordered: the pulse fell to 48 beats in the minute, and became somewhat irregular. The *bruit de soufflet* had not quite ceased when the patient left the hospital; it was always found that it became louder, when from any cause the action of the heart was quickened and increased in force.

From the observation of such-like cases as the present, M. Legroux strongly recommends to physicians to examine minutely the state of the heart in all cases of acute febrile excitement, when the local symptoms, such as the articular pains in rheumatism, are not proportionately severe with the constitutional disturbance. He is of opinion that, in a great number of patients who have suffered from acute febrile affections, the seeds of heart-disease are laid at the time of such attacks, although the more obvious and characteristic symptoms are not developed till long afterwards.

Hitherto pathologists have not examined with sufficient care the condition of the *endocardium*; it is only of late years that their attention has been drawn to the subject.—*La Langette Française.*

Remarks.—Like most of his *compatriots*, M. Legroux is apt to carry his favourite notion *a l'outrance.* He seems to attach no value to any remedies in the treatment of endocarditis, except blood-letting, local and general, and blistering. The prudent physician will not neglect the use of mild mercurials, of saline diuretics and purgatives, &c.—*Med. Chir. Rev.*

SUBSTITUTE FOR JALAP.*

THE seeds of the *Ipomea cœrulea*, the kaladana, or mirahai of the Indian bazars, one of the Convolvulaceæ, which grows abundantly in every hedge and jungle in Bengal, when reduced to powder, and given in doses of from twenty to thirty grains, purges freely, without griping, in from two to three hours. It has been extensively tried in the Native and Police Hospitals of Calcutta, and has been in every case found superior to jalap; inasmuch as it is nearly tasteless, and operates freely, without producing the griping which jalap almost invariably occasions.—*Edin. Med. and Surg. Journ.*

NEW SIGN OF DEATH BY HANGING.†

BY ALPH. DUVERGIE.

M. DUVERGIE proposes two additional tests, which he thinks will be of much service to the medical jurist in cases where there exists any dubiety as to whether a body found hanged has been so during life or after death. He has found in all cases of death by hanging "congestion of blood in the organs by which the generative act is accomplished," and "the existence of spermatic animalculæ in the urethral canal." The first of these has been frequently remarked before; but the last merits notice. He has been able to detect, with the aid of the microscope, spermatic animalculæ both in the semen which has been ejected upon the linen of the deceased, and also in the portions of that fluid still remaining within the canal of the urethra. He has even detected these animalculæ in seminal stains which had been on linen for no less a period than six months; but in this last case many of the animalculæ were found to have lost their tails, in consequence of the manipulations preparatory to their being subjected to the powers of the microscope.

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* Quarterly Journal of the Calcutta Medical and Physical Society, July, 1838.
† Annales d' Hygiene Publique, January, 1839.

He suggests the examination of spermatic stains by the microscope as a test of far greater value than any which chemistry is able to furnish. He advises that the fluid be pressed out from the urethra in preference to laying that canal open, as in this way the fallacy which might arise from the intermixture of any portions of blood is avoided. The fluid expressed is placed between two plates of glass and subjected to the microscope, when the spermatic animalculæ, if present, may at once be detected.—*Ibid.*

UTILITY OF NUX VOMICA IN VARIOUS FORMS OF PARALYSIS.

M. Petrequin, one of the surgeons of the Hôtel-Dieu, at Lyons, has recorded his experience of this powerful drug, in an elaborate and very practical paper in a recent number of the *Gazette Medicale.*

He employs it both internally and externally. He prefers the alcoholic extract—prepared with two pounds six ounces of the grated nuts, and twenty-two pints of alcohol—to the strychnine for internal use; beginning with the eighth part of a grain for a dose, and gradually increasing it to two, three, or even five grains in the course of the day.

For external use, the strychnine is, as a matter of course, to be preferred.

M. Petrequin alludes to the frequent failure of the endermic use of strychnine, owing to the vesicated surface, to which it is applied, becoming covered with a layer of coagulable lymph. In consequence of this, the strychnine is not duly absorbed. This layer of lymph should be removed as well as possible at each application; but, as the vesicated surface becomes daily less and less absorbent, the dose of the strychnine must be proportionally increased. The mode which M. Petrequin recommends, is to sprinkle a third or fourth of a grain of the alkaloid, mixed with two or three grains of the powdered nux vomica itself, on the surface which has been vesicated by means of the *pommade ammoniacale.*

Along with the use of the strychnine in this way, he employs a tincture of the nux vomica—prepared with four ounces of it in powder and one *litre* of brandy—as an embrocation to and around the palsied parts.

M. Petrequin has related several cases of, more or less complete, *hemiplegia,*—which were either quite cured or greatly relieved by the use of the nux vomica.

In all of them, the muscles of the palsied parts became affected with sudden involuntary twitchings, and the patients experienced electric-like shocks in different limbs, before the complete recovery of their lost powers.

Four cases of *paraplegia* also, in which the strychnos seemed to act most beneficially, are recorded.

In the first of these cases, the paralysis was the result of a severe injury of the back from a heavy log of wood falling upon it. For three months, the patient had been confined to bed, when M. Petrequin first visited him. Although the sensibility and motility of the inferior limbs had begun to return, and the general health of the patient to be somewhat reëstablished, he was still so helpless that he could neither stand, nor even support himself sitting in bed. There was also a complete incontinence* of the urine, so that it was continually escaping drop by drop; and, to add to his distress, an ulcer had formed over the sacrum.

A large vesication over the loins was raised by means of the *pommade ammoniacale*, and the excoriated surface was then sprinkled with a fourth of a grain of strychnine, mixed with three grains of powdered nux vomica; this was repeated every day.

Within a week a very decided amendment was visible; for not only was he able to sit up for some time, but he also began to retain his urine to a certain degree.†

A fresh blister was twice repeated within the next fortnight, and the dose of the strychnine was raised to half a grain.

By this time, he was able to walk a little with the assistance of a stick, and he could now hold his urine for two hours at a time. The treatment was persevered in for some weeks longer, and ultimately the patient quite recovered the use of his limb, and command over his bladder. No preparation of the nux vomica was administered internally.

In the next case, the *paraplegia* was connected with a gibbosity of the dorsal vertebræ in a youth 19 years of age, and was accompanied with a retention of the urine.

Three small caustic issues were made on each side of the projection; and two pills, containing each a quarter of a grain of the alcoholic extract of nux vomica, were administered daily. The dose was gradually increased, so that at the end of the third week, the patient took three grains daily of the extract. By this time, the bladder had recovered in a great measure its contractility, and the patient was able to stand with the support of a stick. The treatment was steadily persevered in for some weeks longer; the dose of the medicine had been increased to seven grains daily, and the recovery was so steadily progressive, that, at the end of two months from the commencement of the use of the nux vomica, the patient was able to run about the ward of the hospital.

Several cases of *local paralysis*, as of one or more of the fingers, of the deltoid muscle, &c., treated successfully with the nux vomica—either in the way of frictions with the tincture, or of the endermic use of the strychnine, as explained above—are then detailed by M. Petrequin.

Local *anæthesia* also, or loss of sensibility in a part, has in numerous instances yielded to use of embrocation with the tincture.

A woman, 46 years of age, had for four years been affected with a complete loss of sensibility along the outer half of the left thigh: she dreaded the cold much, and experienced now and then sharp pains in the part, which felt to her to be quite dead. After the application of a few leeches, the tincture of nux vomica was rubbed on the part night and morning. In the course of a week, the *anæthesia* had quite ceased.

Lastly, several cases of amaurotic blindness, which were decidedly and quickly relieved by means of friction over the temples with the tincture of the nux vomica, are detailed at length. It is unnecessary to mention the particulars of these cases, as they are all more or less like each other. Suffice it to say that the remedy is useful only when the amaurosis is simple, and uncomplicated with an inflammatory or congestive state of any of the tissues of the eye.—*Med. Chir. Rev.* from *Gazette Medicale.*

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* For the first three weeks after the accident, there was a retention of the urine, so that it required to be drawn off several times in the course of the twenty-four hours; it was very sedimentary, and occasionally almost as white as milk.

† M. Petrequin mentions that he has treated successfully many cases of nocturnal incontinence of urine occurring in children with the tincture of the nux vomica, as an embrocation to the loins and perineum. Another method, to which he has sometimes recourse, consists in the introduction into the rectum of a seton or thick skein of thread well smeared over with a cerate of nux vomica.

In the *Archives Generales*, for January, 1836, several successful examples of the internal use of the medicine are related.

BIBLIOGRAPHY.

CRANIA AMERICANA: *or a Comparative View of the Skulls of Various Aboriginal Nations of North and South America:* To which is prefixed an Essay on the Varieties of the Human Species. Illustrated by Seventy-eight Plates and a Coloured Map. By SAMUEL GEORGE MORTON, M.D., Professor of Anatomy in the Medical Department of Pennsylvania College at Philadelphia; Member of the Academy of Natural Sciences of Philadelphia; of the American Philosophical Society; of the Historical Society of Pennsylvania; of the Boston Society of Natural History, &c., &c. Philadelphia: J. Dobson, Chestnut Street. London: Simpkin, Marshall & Co. 1839. Pp. 296. 4to.

THE boldness of conception which originated, has been well sustained by the patience which carried out to its successful completion, this grand work of Dr. Morton. It is a large and liberal contribution to the natural history of man, and is peculiarly opportune to the wants of the intellectual and moral philosophy of the age; discharging, at the same time, a claim which the old world has on the present possessors of the new for precise information respecting the physical and mental attributes and manifestations of the aboriginal inhabitants who were once the occupants of the soil and the lords of the interminable forests, ocean-lakes, and mighty rivers of this continent. As it has entered into the plan of an all-wise Providence, that the Indian, or American aborigines, should gradually disappear before the rapid strides and large grasp of a more intellectually powerful family of the white or Caucasian race; it is fit that the historian should trace the circumstances under which the change has been effected. But it is for the zoologist and physiologist to put on record in the archives of science, for ready reference, the distinguishing features of body and their correspondence with those of the mind and character of the doomed people; so as to assign the physical causes for their fate. It will next comport with the purposes of ethical teachers, and of legislators, to turn the knowledge thus placed before them to account, and, by instituting comparisons, to enforce a more fruitful and varied application of doctrines and enactment of laws for the benefit of their more favoured race.

In a well written and most agreeable introductory essay, Dr. Morton gives a notice of the "Varieties of the Human Species;" and, in the subdivision of hese into *twenty-two families*, he sketches their prominent and characteristic traits of body and mind; their geographical position and affiliation.

The body of the work, under the head of *Crania Americana*, consists of descriptions of the cranial configuration, and the physiognomy in general of the families of the American race, together with notices of their dispositions and habits, monumental remains, and intellectual capacity. The text is abundantly illustrated by woodcuts of the different aspects of the crania, independently of the seventy-eight beautifully executed lithographic engravings mentioned in the title page. These last are prepared with all possible geometrical accuracy, and show the relative proportions of the different regions, with a precision short only of actual inspection and handling of the skulls themselves, or of carefully prepared casts. The most careless observer will soon discover on looking over these plates that the physiognomical expression, either of one people compared with another, or of two individuals compared together, is greatly dependant on the outline of the skull itself.

The author, in the Introductory Essay, divides the American race into two families; "one of which, the Toltecun family, bears evidences of centuries of demi-civilization, while the other, under the collective title of the American family, embrace all the barbarous nations of the new world, excepting the polar tribes, or Mongol-Americans."

"In the American family itself, we observe several subordinate groups or branches, which may be designated under the following heads:" There are—"1. *The Appalachian Branch*, which may include all the nations of North America, excepting the Mexicans, together with the tribes north of the river of Amazon, and east of the Andes." "2. *The Brazilian Branch* is spread over a great part of South America east of the Andes; its geographical position may be indicated in general terms as embraced between the rivers Amazon and La Plata, and between the Andes and the Atlantic; thus including the whole of Brazil and Paraguay north of the 35th degree of south latitude." "3. *The Patagonian Branch.* This group includes the nations south of the La Plata, to the Straits of Magellan, and the mountain tribes of Chili." "4. *The Fuegian Branch.* These people, who inhabit the island of Terra Del Fuego, are often called Patagonians; but this name is objectionable, because it is applied to numerous tribes of Indians who inhabit the plains from the Rio de la Plata to the Straits of Magellan, wherefore as a mere local designation it is proposed to adopt the name of Fuegians." Each of these groups is described, with its characteristic physiognomy, in the text: but our limits will not permit of our copying the entire description, and a partial one would be injustice to the author.

In the group of the *Toltecan Family* "are embraced the civilized nations of Mexico, Peru, and Bogota, extending from the Rio Gila in the thirty-third degree of north latitude, along the western margiu of the continent to the frontiers of Chili." The author in the use of the term 'civilized nations' is of course understood to refer to them as they were before their discovery and conquest by the Spaniards.

"In North America, however, the people of this family were spread from ocean to ocean, through the present intendencies of Mexico, Vera Cruz, Puebla, Oaxaca, Guatimala, Yucatan, Nicaragua, &c. In South America, on the contrary, this family chiefly occupied a narrow strip of land between the Andes and the Pacific Ocean, and were limited on the south by the great desert of Atacama. Farther north, however, in the present republic of New Grenada, lived the Bogatese, a people whose civilization, like their geographical position, was intermediate between that of the Peruvians and Mexicans. This division of the Toltecan family had long held their mountain empire at the epoch of the Spanish invasion and conquest, and were surrounded on all sides by barbarous and uncongenial tribes."

DIFFERENCE BETWEEN THE TWO FAMILIES.—"As it will be a principal object in the sequel of this work to consider the character of these nations in reference to their cranial remains, we shall in this place merely remark that it is in the intellectual faculties that we discover great difference between the Toltecan and American families. In the arts and sciences of the former, we see the evidences of an advanced civilization. From the Rio Gila in Calafornia to the southern extremity of Peru, their architectural remains are everywhere encountered to surprise the traveller and confound the antiquary: among these are pyramids, temples, grottoes, bas-reliefs, and arabesques; while their roads, aqueducts, and fortifications, and the sites of their mining operations, sufficiently attest their attainments in the practical arts of life."

The description of the Crania Americana is begun with that of the skulls of the ancient Peruvians, who inhabited Upper Peru above a thousand years ago. To these succeed the modern Incas or Peruvians, whom the Spaniards found in the possession of the country. Brief notices subsequently of the *Atures*, the *Puelchés*, the *Charruas*, the *Botocudos*, are followed by a full account of the *Mexicans.* The *Natchez*, next spoken of, are supposed to have emigrated from Mexico. After these, the author passes in review the *Chetimaches*, the *Muskogees* or *Creeks* and *Seminoles*, and the *Uchees.* The *Algonquin-Lenapé* nations, next mentioned, constitute a large group, the members of which "possessed a vast tract of North America, extending from Labrador and Hudson's Bay on the north to the country of the Florida tribes on the south; while the Mississippi and Atlantic bounded them west and east. It is well known, however, that at the present day many of these tribes inhabit west of the Mississippi, while to the east of the river they are, in a great measure, superseded by the white population. It is necessary to remark, however, that in the midst of the Algonquins, and surrounded by them on every side, lived the Iroquois or Five Nations." We need not here enumerate these tribes noticed by Dr. Morton, and whose crania are figured and described in his work.

The *Iroquois* or *Five Nations* consisted originally of the Mohawks, the Oneidas, the Onondagas, the Cayugas, and the Senecas. "History affords ample evidence of the intellectual superiority of the Iroquois over the surrounding nations. They were passionately devoted to war, and were everywhere formidable and victorious." The *Pawnees* consist of two nations, the *Pawnees* proper, and the *Ricaras* or *Aricaras*, which last are also called Black Pawnees. "These tribes speak a language different from any other on this continent." Of the *Dacotas* it is said: "This collective appellation embraces many tribes or rather nations of Indians allied to each other by affinity of language, and in some measure by community of customs and feelings. They are also called *Sioux* and *Naudowessies*, and the 'Seven Fires,' in allusion to their confederacy of seven bands or tribes." "The *Osages*, *Minetaris*, *Mandans*, *Assinaboins*, and many cognate tribes, are more or less connected with the great Sioux nation, although they are often inveterate enemies to each other." They are so tall and robust, as almost, in the language of a late traveller, to warrant the application of the term gigantic; few of them appear to be under six feet, and many of them are above it.

Catonay-Blackfeet. "The Blackfeet nation is one of the most powerful in the northwestern region of this continent: for, notwithstanding their long and desperate conflicts with all the surrounding tribes, they yet number thirty thousand souls."

The *Flat-Head Tribes of Columbia River.* These tribes are established on both sides of the river, and to a distance of many miles from its mouth.

SKULLS FROM THE TUMULI OR MOUNDS.—Under this head Dr. Morton inquires into the geographical distribution of the mounds, their uses, and the race of people by whom they were constructed. The first skull figured and described is from Circleville, Ohio; the next is from the Grave Creek Mound, below Wheeling in Virginia: a third is from a mound on the Alabama river. Others are from Peru and Mexico.

The next subject is the *Charibs.* "That part of the American race called

Charibs was at one period a numerous and widely distributed people. Their native seats were the northern regions of South America, almost from the river of Amazons northward to the sea, including the great valley of the Orinoco, and much of the present provinces of Guyana and Venezuela. From thence they extended their migrations to all the Antilles, from Trinadad to Santa Cruz." Last in the enumeration are the *Araucanians*, the most celebrated and powerful of the Chilian tribes, and who inhabit the region between the rivers Bio-Bio and Valdivia, and between the Andes and the Sea, and derive their name from the province of Arauco. "They are a robust and muscular people, of a lighter complexion than the surrounding tribes. Endowed with an extraordinary degree of bodily activity they reach old age with few infirmities, and generally retain their sight, teeth, and memory, unimpaired."

In the mode of sepulture, especially in the posture in which the body is placed, and which prevails over the whole continent, the author thinks we have collateral evidence of the affiliation of all the American nations.

This part of the work is completed by an account of the ESKIMAUX skulls under the title of the MONGOL-AMERICANS.

The section on *Anatomical Measurements*, and the tables of the same, are evidences of singular industry and minute pains-taking. They will be regarded as the most valuable illustrations of philosophical craniology extant—the more so, indeed, as they are followed by a table of Phrenological Measurements, of six pages, of the skulls of the different families and tribes mentioned in the body of the volume. For the successful completion of this part of the work, Dr. Morton warmly acknowledges his obligations to John S. Phillips, Esq., to whom, and to Dr. W. S. W. Ruschenberger, of the United States Navy, he dedicates his present labours.

The Appendix, which may be considered as the application and completion of the inquiries and observations contained in the body of the work, is written, with his usual ability, by Mr. George Combe, at the request of the author, under the title of "*Phrenological Remarks on the relation between the Natural Talents and Dispositions of Nations and the Development of their Brains.*" Dr. Morton remarks, in his preface, "that, by means of this essay, which is accompanied by two illustrative plates, the reader will be able to apply phrenological rules to every skull in the series here figured."

Having thus given an outline of the contents of the great work of Dr. Morton, we should be glad to copy some of the details, especially those which indicate the craniological and other features of the two great families of the American race, and "the singular distortions of the skull caused by mechanical contrivances in use among various nations, Peruvians, Charibs, Natchez, and the tribes inhabiting the Oregon Territory," which the author has illustrated very amply: but room is not allowed in our present number; and we will not promise for a future one. Should we, however, give these details, they will be an agreeable surprise to our readers, a small number only of whom can become possessors of the original work in its present costly style of equipment and decoration.

Woman Physiologically considered, as to Mind, Morals, Marriage, Matrimonial Slavery, Infidelity, and Divorce. By ALEXANDER WALKER, Author of "Intermarriage," &c. With an Appendix containing Notes and Additions. Edited by an American Physician. New York: J. & H. G. Langley. Boston: Weeks, Jordan & Co. Philadelphia: Haswell, Barrington & Haswell. New Orleans: J. J. Haswell & Co. 1840.

THE title of Mr. Walker's work, different from the title of many works, gives a good idea of its contents. It is written with considerable force, one might say dogmatism, and contains many important truths with some errors, which are corrected in part by the American Editor, in a long Appendix. Although the author's quotations are for the most part pertinent, yet they are often needlessly long, and their introduction, as evidence, becomes at times tedious. A more careful digest would make a stronger argument and a smaller volume, and what is, also, important, would more readily interest and convince the reader. The latter cannot however complain, considering the pains taken by Mr. Walker in his 'Advertisement' to state, in a series of separate paragraphs, all that he believes to be original. Some of these, especially touching the functions which he attributes to the cerebel and the alleged larger size of the anterior cerebral organs in woman, are certainly more new than true. The editor has corrected these assumptions in his Appendix. It is but justice to the latter gentleman to add an enumeration of the subjects which he has treated of 'in order to adapt the work to American readers.' They are: *Materialism; Size of the Male and Female Brain; Physiological Peculiarities of the Sexes; Instinct; Religion of Females; Insanity of Women; Matrimony and Celibacy; Old Maids; Matrimonial Infidelity; Laws of the different States in relation to Divorce; Milton's arguments on Divorce; Education of American Females.*

Mr. Walker, while he rates men for their injustice and tyranny to the other sex, is not disposed to run a tilt on all occasions, right or wrong, in favour of the latter. He grants to these greater sensibibity, tact, promptitude, in fine, a superabundance of instincts in which he includes their moral system. He shows, as he informs us, "that woman's perception of what is fitting, her politeness, her vanity, her affections, her sentiments, her dependence on and knowledge of man, her love, her artifice, her caprice, being chiefly instinctive, reach the highest degree of perfection; whereas her friendship, her philanthropy, her patriotism, and her politics, requiring the exercise of reason, are so feeble as to be worthless."

Also, "That woman, not merely in consequence of her more developed vital and reproductive system, rendering love more necessary to her than to man, and in consequence of man's infidelity and her privation, but in consequence of her subjection to a state of slavery in regard to property, person, and progeny, is herself driven to extensive infidelity."

Again: "The exposition of the fact that human nature in its tendency to sexual infidelity is much the same in modern Russia, Poland, England, Germany, Prussia, Austria, France, Italy, Spain, and Portugal, as in ancient Sparta and Athens."

And "The proving that parents bequeath their errors to their children, and that consequently nothing can be more ignorant and savage than that they should also punish them."

Praters of either sex about the rights of women, who assume what is not true—an equality of intellect—and infer what is by the very nature of their bodily constitution impossible, viz.: an ability to perform the various duties of out-door life, including legislation, may derive useful lessons from this volume of Mr. Walker.

After some remarks on the inconveniencies of making representatives and senators of women, if, as would most likely be the case, the handsomest were to be elected with a view to their influence over their fellow members of the other sex, he adds:

"This system would, moreover, be rendered very inconvenient by the little indescribable accidents which at all times attend the health of women, and more especially by some of the symptoms of pregnancy, by some of the slight diseases of gestation, or even occasionally perhaps by premature parturition, which might easily be occasioned by a variety of accidents. Were, moreover, a tendency to the latter to spread rapidly among the congregated female senators, as it does sometimes among the females of inferior animals, what a scene would ensue! A few midwives to be sure, might be added to the officers of the house. Thus a man might have the glory, not merely of having died, like Lord Chatham, in the Senate, but of having been born there!"

The above picture, though somewhat coarse, would not be untrue to nature, if the views of the Utopian female utilitarians could be carried into effect. Another one might be made exhibiting the matronly legislators with infants in their arms, and alternately stilling the cries of these latter and arguing the point in debate with their compeers.

We should say that the following sentences, in speaking of the *Relation of Husband and Wife*, convey sound doctrine. Whether it be borne out in practice is a question which our own inexperience disqualifies us from determining.

"It is evident that the man possessing reasoning faculties, muscular power and courage to employ it, is qualified for being a protector; the woman, being little capable of reasoning, feeble and timid, requires protection. Under such circumstances, the man naturally governs; the woman as naturally obeys."

In reference to the differently innate feelings of the two sexes, Mr. Walker says:

"Progressing a little forward, we find that young women, even before they are evidently marriageable, are intensely and irresistibly attracted towards children, and are delighted to be entrusted with them. At the time of nubility, this passion for children becomes greatly increased. The real destiny of woman is indicated by these circumstances; and thus again are those answered who would confer on woman the same kind of intellect and occupation with man."

The chapter on *Matrimonial Infidelity* is a long one, and possessed of painful interest. Greece and Rome, and the different nations of modern Europe, are passed in review, and are shown to be deplorably tainted with this vice. Various and too long details are furnished of the methodical and publicly recognised infidelity of the Italians, Spaniards, and French. These are exaggerations if not positively inaccurate, if, by inference or implication, they are meant to be pictures of married life among these people generally. We should be inclined to make the same remark of what is said of infidelity in England.

The chapter on *Divorce* is chiefly argumentative; that on *Concubinage* and *Courtezanism*, historical.

As a whole, this book may be read with profit by a person who takes it up in a proper spirit, of a desire to study the subject in its various bearings, physiological, ethical, and legislative. But, if it is merely used to pass off a few idle minutes, or with the intention of culling some passage to show how wicked people are, and how incurable the case seems, it may furnish matter for wrong commentary and false opinions.

The editor has introduced a considerable share of good readable matter under the heads already specified; but, whilst correcting errors of fact and opinion of the author, he has imitated him in a diffuseness of remark and commentary, which might, with a little more pains, have been avoided, to the advantage of both the writer and his readers.

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THE NURSE'S GUIDE: *Containing a Series of Instructions to Females who wish to engage in the important business of Nursing Mothers and Children in the Lying-in Chamber.* By J. WARRINGTON, M.D., Lecturer on Practical Obstetrics; Accoucheur to the Philadelphia Dispensary, and Philadelphia Nurse Charity; Honorary Member of the Philadelphia Medical Society, and Fellow of the College of Physicians. Philadelphia: Thomas, Cowperthwait & Co. 1839. Pp. 131.

IF our remarks could meet the eyes of the persons for whose use this little volume is intended, we should press on them with earnestness the importance of reading it with care, and might add some collateral remarks on the responsibility of their calling.

Young practitioners and students, who are properly desirous to know the etiquette of the sick room and the order in which the minor but not trivial matters of toilette and bed-arrangement for the mother and the treatment of the child is to be directed, may also consult the Nurse's Guide with benefit. The detailed directions for preparing suitable drinks and food are useful to every reader who would administer comfort to a sick person.

We take the present occasion to announce the fact, that Dr. Warrington, whose translation of Duparcque was noticed with some fulness in one of our earlier numbers, has, as he himself informs us, translated Mme. Boivin's work, which was reviewed recently in this Journal; and that he only waits a publisher in order to send it forth for the perusal of his professional brethren.

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THE AMERICAN MEDICAL ALMANAC FOR 1840. *Designed for the daily use of Practising Physicians, Surgeons, Students, and Apothecaries:* Being also a Pocket Memorandum and Account Book and General Medical Directory of the United States and the British Provinces. By J. V. C. SMITH, M.D., Editor of the Boston Medical and Surgical Journal. Vol II. Continued annually. Boston: Marsh, Capen, Lyon & Webb. 1840. Pp. 152. 18mo.

OF the utility of a good Medical Almanac there can be no doubt; and that the editor of the present work is earnest in his desires to meet the public wish in this respect is no less certain. The amount of information in Dr. Smith's volume is great: but as its value must consist solely in its accuracy, by this standard alone will its merits be judged. As compiler of the facts contributed by others, the editor is only responsible for the correct repetition and arrangement of the knowledge thus procured; and hence his success depends more on his pains-taking than on any originality of view or suggestions of his own. Now, it happens unfortunately, that in the matters of which we are competent to take more immediate cognizance, we find mistakes which are the more vexatious because they are the result of inattention—not of deficient information. Thus; one of the articles which first met our eye on opening the book, headed MEDICAL JOURNALS IN THE UNITED STATES, has sundry errors. The name of the editor of the American Journal of Medical Science is inaccurately spelled: half the title of our own work and that part of it too on which its distinguishing feature depends, is left out—viz.: SELECT MEDICAL LIBRARY: the terms, as respects subscription price of the Medical Examiner, are wrong, being $5 in place of $3, as printed in the Almanac. There is no Maryland Medical and Surgical Journal published, whatever there may be in prospect. The difference should have been noticed. The same remark applies to the Western Journal of Medicine and Surgery. No notice is taken of the Transylvania Journal of Medicine, although evidence of its being continued was furnished by the publication of the number for the first quarter of 1839. We publicly notice these mistakes because they all operate, with the exception of the first, injuriously to the parties concerned.

In the list of the Faculty of the *Jefferson Medical College* there is an error in the name of a gentleman as Dean who is not at present connected with that institution at all. That the changes in the Faculty of this college, of which his having been left out was a part, were known to the editor of the Almanac, is manifest from his having duly mentioned the two new professors. He enumerates, also, properly enough, in another page, the Faculty of the Medical Department of the Pennsylvania College, one of the very members of which is the so-called Dean of the Jefferson, in the Almanac.

It was hardly worth while for the editor to take the pains to publish an article on the Cincinnati College, Ohio, giving the terms, names of the different professors, &c., when the paragraph in which we read all this ends with the following important announcement—"NOTE. The medical department, organized as above, has recently been suspended: no lectures will be given the present year." The school is broken up; and one of the evidences of the fact is, the appointment of Dr. Drake, its founder and leader, to the Louisville Medical Institute—as stated in the Almanac, p. 22.

It does not follow that the mistakes in other parts of the work bear any proportion to those which we have just designated; and we believe that they do not We are the more free to point these out, because they are the effects of inattention and not of ignorance or of wrong information.

We have one remark for the publishers: It is, an entreaty that they will print the Almanac for 1841 in a larger type. Our own eyes are good, but we have compassion on our brethren, many of whom have weak visual organs, and who in consequence either cannot or will not read the volume as now printed.

It would be a tedious work to enumerate all the matters included in Dr. Smith's Almanac. We refer our readers who, in large numbers, will, we hope, be the readers of it, to the volume itself, which merits a place on a physician's table for ready and convenient reference to a great many points which could not be reached in other ways without much time and trouble.

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THE PAINS AND PLEASURES OF A MEDICAL LIFE: *Being an Introductory to a Course of Lectures on Materia Medica and Therapeutics:* (Session 1839–40.) By THOMAS D. MITCHELL, M.D., Professor of Materia Medica and Therapeutics in the Medical Department of Transylvania University, Lexington. 1839. Pp. 23. 8vo.

THIS discourse by Dr. Mitchell is calculated to benefit those who heard it delivered and those who shall read it now that it is printed. The picture of a medical life does, indeed, exhibit most contrasted lights and shadows, which if not introduced in the most finished style of art by the present author, are sufficiently well drawn to arrest attention and convey a moral. The pains are more dwelt upon than the pleasures, and properly, too, for the purposes of instruction; since the latter will come unbidden, whereas, it is very desirable, by a previous knowledge of the nature and operation of the former, either to be able to avoid or to be prepared to meet their shock.

◆

A Report on the History and Causes of the Strangers or Yellow Fever of Charleston: Read before the Board of Health. By THOMAS Y. SIMONS, M.D., Chairman of the Board. Printed by order of the Board. Charleston, 1839. Pp. 23. 8vo.

WE feel ourselves called upon by the valuable contents of this Report to extract from it as far as our limits will allow. Its historical and statistical portions are more especially interesting to the medical reader. Dr. Simons says:

"The first account of Yellow Fever which we have, is its occurrence in Barbadoes, in 1647, and from thence it spread in the West India Islands. It occurred in Boston, in 1693, and in Lisbon, in 1723. Its first appearance in Charleston was in 1699, or 1700, and it was called by Dr. Hewat the infectious distemper, and considered by the inhabitants as a plague. In 1703 it again occurred. It also made its appearance in 1728. That summer was uncommonly hot and dry; the beasts suffered from the want of water, and the fever, raging with violence, swept off an immense number of whites, and some blacks. The state of the city was truly deplorable, as the town (says Dr. Hewat), depended entirely on the country for fresh provisions, the planters would suffer no person to carry supplies to it, for fear of catching the infection, and bringing it to the country. The physicians knew not how to treat this uncommon disorder, which was suddenly caught, and proved suddenly fatal. The calamity was so general, that few could grant assistance to their distressed neighbours. So many funerals happening every day while so many lay sick, white persons sufficient for burying the dead were scarcely to be found. Though they were often interred on the same day they died, so quick was the putrefaction, so offensive and infectious were the corpses, that even the nearest relations seemed averse from performing the necessary duties. In 1732 and 1793, it raged with so much violence, that when at its height, from ten to twelve whites died a day. It did not reappear until 1745 and 1748, and was then comparatively mild. A few cases occurred in 1753 and 1755, and a cessation took place until 1792, with the exception of a few sporadic cases, which occur more or less every year. 'In the year 1792,' says Dr. Ramsay, 'a new era of the yellow fever commenced. It raged in Charleston in that year, and 1794, '95, '96, '97, '98, '99, 1800. 1802, 1804 and 1807. A few cases occurred in the years 1803 and 1805, in both years its victims did not exceed 59. In the years 1793 and 1808, the disease is not mentioned at all; and in the year 1806, it is only mentioned as having occurred in a very few cases, under particular circumstances. In its visitations it extended from July to November, but was most rife in August and September; with a very few exceptions, chiefly children, it exclusively fell on strangers. The unseasoned negroes were not exempt from its ravages, but they escaped oftener than the white strangers; and when attacked, had the disease in a lighter degree, and if properly treated, were more generally cured. Persons, both black and white, arriving from the West India Islands, enjoyed similar exemptions from the yellow fever of Charleston. In the years 1796 and 1798, it raged with the greatest violence; but since that time has considerably abated, both in frequency and violence.'

From 1807 to 1817, we have no records of the existence of this disease. In 1817, it prevailed with great malignancy. It again occurred in 1819, 1824, 1827, 1828, 1830, 1834, 1835, 1838 and 1839. From the statements I have brought to your view, it will be seen how irregular are the visitations of this disease.

I will now present you with the number of deaths in these respective years, as far as we have any records and remarks upon them. In 1699, the fever which prevailed swept off a great part of the inhabitants, and a number of families. It was then considered to be a plague, 'though afterwards,' says Dr. Ramsay, 'supposed to be the yellow fever.' 'In 1728,' Dr. Hewat says, 'the physicians knew not how to treat the disease.' In 1732, when the population must have been very small, from 8 to 12 whites died a day, which exceeds any mortality in our city since that time, although our population has greatly increased. The following facts I take from Dr. David Ramsay:

In 1799, there were 239 deaths. In 1900, 184 deaths. In 1802, 96 deaths. In 1804, 148 deaths. In 1807, 162 deaths.

From 1807, we have no account of the existence of the fever until 1817, which I will now submit as I have taken it from the records of the Board of Health.

In 1817, there were 268 deaths: adults, males, 164, adults, females, 56—220; natives under 18, 48; blacks, 19: 14 males, 5 females.

In 1819, there were 172 deaths: adults, males, 130, adults, females, 24—154: natives under 18, 18; blacks 5: males 3, females, 2.

In 1824, there were 236 deaths: adults, males, 160, females, 32—192; natives under 18, 44: there were no blacks this year.

In 1827, there were 63 deaths: adults, males, 40, adults, females, 3—43; native children over 14, 4 under 14; 10 strangers, children 6; blacks, 2 males.

In 1828, there were 26 deaths: adults, males, 21, females, 3; native children, 1; strangers' children, 1. There were no blacks. This year, a disease having many of the incipient symptoms of Strangers Fever, viz., the Dengue, prevailed, as an epidemic, affecting every one, but proving only in a few instances fatal; only the effects in many cases afterwards were painful, and ultimately in some old persons were the cause of death. It is probable, that the prevalence of this epidemic, caused the cessation of the Strangers' Fever, and limited its extent.

In 1830, there were 29 deaths: male adults, 23, females, 1; native children, 1; strangers' children, 4; blacks, 1.

In 1834, there were 46 deaths: male adults, 28, female, 10; native children, 1; strangers' children, 5; no blacks.

In 1835, there were 26 deaths: male adults 16, female, 5; native children, 4; blacks, 1.

In 1838, there were 353 deaths: adult, males, 281, females, 30; native children, 17; stranger's children, 11; blacks, 4 females. This year, 1838, our city suffered from an extensive fire, leaving an immense surface, upon which the sun had to act, with a vast quantity of decomposed matter, which could not be entirely removed, and depriving the city of a great quantity of smoke, which is believed to be highly salutary; and did time permit, I could give abundant evidence from medical writers, of its value, in counteracting the pernicious influence of malaria.* Independently of this, a great number of workmen, who were strangers, thronged the city, and were exposed by their avocations to the sun, and not unfrequently to the dew, and from the scarcity of accommodations in consequence of the fire, were crowded together in small and confined situations; hence the great mortality among strangers. Among the natives, it will be observed, there were only 17 native children, of whom only 1 was over 14; while 281 males died among strangers, of whom there were only 30 females."

The deaths in the past season from yellow fever, "were 134: adult males 104; females 14; native children 8; strangers' children 7; blacks, 1 female.

The state of the weather and precursory maladies, are noted by Dr. Simons as follows:

"It must be here remarked, that the month of June was uncommonly hot; and the whole of this summer was remarkable for the great drought, as well as high temperature. All our southern country experienced the same weather, and the principal cities south of Charleston have been invaded with yellow fever. At the latter portion of this year, a fever of the duration of twenty-four to forty-eight hours, affecting the head, the joints, the spine, very severely, occurred among natives and strangers; and as soon as it began to prevail, the strangers fever diminished: this fever resembled the Dengue, and from the intense pain in the joints, was commonly called the Broke Bone fever. It in no instance proved fatal."

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* **On Malaria, I refer to McCulloch's elaborate and interesting work.**

That the fever did not prevail "either by infection or contagion," is manifest, Dr. Simons thinks, by the following reasons, "independently of the facts cited."

"1. It is hardly possible to suppose that the disease, after the statement made, could have been introduced by the Burmah, for it would produce an intensity of contagious or infectious principle, surpassing small-pox. For many years I have removed cases of small-pox from the city to the Lazaretto, whenever they occur, and there are not less than four or five occurring every winter, and yet this virulent and acknowledged contagious disease has never spread.

2. It may be said, that infection arising from the condition of the vessels, might be the cause. In reply, I say, if such was the case, why does it not occur every year? for the same causes exist every year, viz., vessels arriving from the West Indies, and especially from Havana, in Cuba, where yellow fever always every summer prevails among the shipping.

3. If the infectious principle was so powerful, why should it be confined so long to the shipping, when a free intercourse was had with them by laborers, and other inhabitants of the city, liable to the disease. On contagion, I will cite authority in another part of this report."

REMARKS ON THE DEATHS AMONG CHILDREN.—Dr. Simons informs us, "1. That the number of native children who die during the prevalence of fever, is small, considering the great number liable to fever, in proportion to strangers, and remarkably small in comparison with those who die of other diseases, to which they are subject, as *Scarlatina*, and *Cholera Infantum;* and it cannot be doubted that many of the elder children have been exposed to the sun, and other circumstances, producing powerful exciting causes. Although there are exceptions to the fact, as far as my observations have extended, in a practice of nineteen years, I have found where children have not been allowed to expose themselves much to the night air, when the dews are heavy, and where they have not been allowed to fatigue themselves by exposure to the hot sun, that they are more generally exempt, and when taken with fever, that it is commonly mild and manageable. There is another circumstance I will now bring to your view, viz., the habit many parents have had, of estranging their children from the climate, fearing that they might take the fever and die. The number of deaths, as I have shown, is small, in comparison to adults; and if it is intended that their children shall live in a warm climate, and in southern cities, why estrange them, and render them more liable to the disease in adult age, when they are compelled to expose themselves to greater exciting causes? If we examine the bills of mortality of our city, we shall find among our natives, adults as well as children, as small a proportion as in those of any city in the Union.* In every portion of the earth, there are certain diseases peculiar to the climate. If we have occasionally strangers' or yellow fever among us, the typhus fever, as an epidemic, prevails in cold latitudes in an infinitely more fearful degree, as in Great Britain and Ireland, for example. In Edinburgh, while I attended the University, in one of the winters the ravages of the typhus fever infinitely exceeded any year of strangers fever here; and from an investigation of a committee of the British Parliament, in relation to the fever of Ireland, a fearful exhibition of mortality will be observed. All cities are liable to the irruptions of endemic disease: and I can safely say, that to the acclimated, our city is remarkably healthy at all seasons, and in the winter it is a delightful climate to all persons, except the consumptive, being too damp and changeable for them.

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* The following is given by Dunglison, as the annual mortality of some of the chief cities in this country and Europe, in 1835: Philadelphia, 1 in 45; Baltimore, 1 in 41; Boston, 1 in 41; New York, 1 in 37; Charleston, 1 in 36†—now 1 in 45; London, 1 in 40; Paris, 1 in 32; Rome, 1 in 25; Glasgow, 1 in 44; Brussels, 1 in 26; Manchester, 1 in 44.

†Charleston, except in the year when Cholera prevailed, and in 1838, in some years it has averaged 1 in 45.

To show satisfactorily that the mortality among the native inhabitants, or children of those who are acclimated, is comparatively small, I beg leave to recapitulate the following facts to you, which I deem important, namely, the number of deaths from 1817 to 1829, the years the fever has prevailed, with the comparative number of deaths of natives, premising that none have been known to sicken or die over 18, and few, as will be seen, over 14.

In 1817 there were 268 deaths: number of native children under 14, 41; number of native children over 14, 7—total 48.

In 1819 there were 172 deaths: nnmber of native children under 14, 11; number of native children over 14, 1—total 12.

In 1824 there were 236 deaths: number of native children under 14, 33; number of native children over 14, 3—total 36.

In 1827 there were 63 deaths: number of native children under 14, 10; number of native children over 14, 4—total 14.

In 1828 there were 26 deaths: number of native children under 14, 1; no children over 14.

In 1830 there were 29 deaths: number of native children under 14, 1; no children over 14.

In 1834 there were 46 deaths: native children under 14, 1.

In 1835 there were 26 deaths: native children under 14, 4; no children over 14.

In 1838 there were 353 deaths: native children under 14, 16: native children over 14, 1—total 17.

In 1839 there were 134 deaths: native children under 14, 4; native children over 14, 4—total 8.

In 1817, the number of native children for Charleston being 48, and in 1824 being 33, was very large; but I believe a more general sickness among children was never known, and under such circumstances, the number is, in comparison with epidemics in other countries, and among ourselves, not remarkable, indeed it is small—as, for example, during the prevalence of scarlatina, sore throat, and cholera infantum: yet families do not remove their children when these diseases prevail. Subsequently, the number of native children to the unacclimated have been very small: thus, for example, in 1838, when there were 353 deaths from the fever, only 17 native children died; and in 1839, of 134 deaths, only 8."

Reference is next made to the needless exposure of themselves by strangers, to the night air and the hot sun.

PROPORTIONS OF DEATHS IN THE TWO SEXES AND TWO COLOURS, AND IN THE DIFFERENT MONTHS.—"The number of male adults is greater than that of females. 1st. There are more males than females. 2d. They are more exposed to exciting causes, and more careless in their habits and mode of life. 3d. The number of blacks who die is small, and the deaths are amongst those who have been brought from the country, and are unaccustomed to the city, but these cases are generally mild and manageable. 4th. That the fever generally occurs at the middle or end of July, and prevails in August, September, and October; and a few cases sometimes occur in November. In 1839, as already stated, it commenced in June; and the only instance of its occurring earlier, was in 1732, when it commenced in May, and terminated in October. The following I take from the records of the Board of Health:

In 1817, July, 3 deaths; August, 80; September, 149; October, 33; November, 3, and these were in the beginning of the month.

In 1819, August, 55; September, 97; October 20.

In 1824, August, 32; September, 145; October, 42; November, 17. The frost occurred very late this year.

In 1827, August, 10; September, 38; October, 18.

In 1838, August, 44; September, 219; October, 77; November, 6, the first week of this month.

In 1839, June, 5 cases; July, 17 cases; August, 73 cases; September 32 cases; October, 9 cases."

Some interesting remarks follow on the causes of the fever in Charleston, which we may be tempted to insert in our next number, in connexion with the paper of Dr. Dickson, kindly communicated to us by that gentleman, on the Yellow Fever in Charleston in the year 1838.

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CIRCULAR OF THE VERMONT ACADEMY OF MEDICINE FOR THE SESSION OF 1840. Castleton, Vermont, December, 1839.—We had occasion not long since to notice the organization of this School. Now as then, we must say, that the annual session for public lectures, "which will commence on the second Tuesday of March, 1840, and continue thirteen weeks," is too short. The present circular smacks too much, and in this it is not alone, of the advertisement of a patent medicine, as, for example, "The courses of instruction will be according to the best and most accepted authors, and after the most approved manner of Medical Schools. While sufficient reference will be had to the variety of theory, and constant improvements of the age, to give interest to the subjects taught; it will be the chief endeavour of the faculty to make their respective courses such as to exhibit the practical results of the science and to impart the *greatest amount* of the *most approved* and *practical* instruction on the basis of established facts and doctrines."

Such confident and unqualified promises challenge an inquiry which might not have perhaps been made. Great part of the most *approved* and *practical* instruction in medicine, consists in teaching practical anatomy by dissections, and practical medicine and surgery in the wards of large hospitals. Are these advantages offered at the Vermont Academy?

We see the name of our industrious and pains-taking townsman, Dr. Bryan, in the present list of its faculty for the chair of the Principles and Practice of Surgery. Dr. B.'s late visit to Europe must have placed materials at his disposal, and furnished him with many hints which he will turn to good account in his new position.

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GROSS'S PATHOLOGICAL ANATOMY.—We have received the second volume of this work; but shall suspend the expression of an opinion of its merits, and, of necessity, a notice of its contents, until we see the first volume. We believe, however, that we shall not incur the charge of rash judgment in saying that it will prove a valuable addition to every medical library.

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MORTALITY IN THE FRENCH ARMY.

A very interesting discussion took place recently in the Chamber of Deputies on the question that the annual levy of 80,000 conscripts for the year 1839 be authorised. Col. Paixhans, from documents to which he referred, refuted the statement in the report of the Committee to which the measure had in its usual course been submitted, that the military profession was in time of peace favourable to the preservation of the health of the men (those engaged in it). On the contrary, he showed that the annual mortality among young men of 20 years of age engaged in civil pursuits was only 12 in 1000; and among those of 27 years of age, similarly occupied, 14 in 1000. Now, the mortality in the ranks of the army was much more excessive. Among the non-commissioned officers it was 11 in 1000; among the senior soldiers (those of from 26 to 27 years of age) the deaths were 20 in 1000 per annum. Among those who were only five years in the service (they commence at 20 years) the mortality was 30 in 1000; among those who were four years in the army it was 45 in 1000; among those of three years it was 52 in 1000; among those of two years it was 65 in 1000; and among the young soldiers, those in the first years of service, the mortality was 75 per 1000. He added, that the annual mortality among the veterans in the Hotel des Invalides was 50 in 1000; among the troops in the colonies 70, and among those in Algiers 80 in 1000.

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REMARKS ON THE YELLOW FEVER IN CHARLESTON, S. C., IN THE SUMMER OF 1838.

BY S. H. DICKSON, M.D.,

Professor of the Institutes and Practice of Medicine in the Medical College of South Carolina.

According to the requisition of the Society, I have prepared a brief notice of Yellow Fever as it prevailed in the city during the past summer. I am not aware that there were any new or striking features developed in this invasion; nor did any thing occur, in relation to its history or treatment, particularly instructive. The panic-terror created by its progress and proportional mortality, was greater than I have ever before witnessed, and beyond reason. As usual, the first cases occurred about the beginning of August. The summer had been extremely hot and dry; the thermometer ranging, for many days in succession, between 90 and 100° of Fahr. Easterly winds had prevailed remarkably. Whatever cause may have generated the disease, seems to have been widely diffused from the very first. Patients were attacked almost simultaneously on East Bay near the market, in the widest and best portions of Meeting street, and in the various cross streets at different intervals south of these points.

To describe the attacks would be only to repeat, for the thousandth time, the drawing of a portrait familiar to every member of the Society. In the first patient to whom I was called, I recognised without hesitation the same horrid features which had so often presented themselves to me in 1817, 1819, 1824, 1827, and 1835. There were the suffused dark flush upon the visage, the red and watery eye, the gastric distress and oppression, the full hard pulse, the pains in the head, back and limbs—met with to be sure in other forms of fever, but presenting in their concurrent intensity something characteristic. Then there was the single paroxysm of long duration without subsidence, and when subsiding returning no more. It is perhaps always interesting to note the differences which may be detected, on careful examination, between the several irruptions of every form of pestilence, and to endeavour, if possible, to explain these variations from uniformity of type or progress.

The circumstances in which the Yellow Fever of 1838 differed from most of preceding seasons were two:—First, the state of skin; and second, the tendency to hemorrhage. Mosely has well denoted this tropical plague by the appellation of *causus febris ardens*—I say well denoted it by this appellation, for, during its prevalence on all former occasions within this city, from 1817 inclusive, it has presented, in a notable degree, that burning heat of skin so much dwelt on in its description. But it was matter of common remark with the physicians whom I most frequently met during the past summer, that the skin of the yellow fever patients was apt to be moist and by no means especially hot. Rush and many others have considered this state of things to be unfavourable, and regarded it as a bad token for the result of the attack. I do not know why this should be so, and yet my own experience confirms the opinion. It does not coincide uniformly with any other condition of the sick, but perhaps is most usually found connected with the more intense degrees of nausea and most frequent vomitings. At one moment I thought I had found an explanation for it in the relaxed state of the vessels on the surface which so often attends upon sickness of the stomach and repeated retching. But continued attention and observation carried still further, showed that this was by no means constant; but that, on the other hand, the exceptions were numerous in which exquisite suffering from gastric inflammation, attended with almost incessant efforts to vomit, produced nothing of this cutaneous relaxation.

There were many instances in which this state of the surface was combined with another symptom of unfavourable import. I allude to the suppression of the urinary secretion, which is occasionally absolute. But neither was this connexion at all uniform, nor could I observe, as I expected, any urinous exhalation from the body of such subjects.

The second point of special note in the fever of 1838, was the frequent occurrence of the hemorrhagic condition in its latter stages. This, as is well known, is an occasional contingency in all fevers, but has always been remarked as more definitely connected with yellow fever than any other. Nay, if black vomit be a gastric hemorrhage—a point much insisted on by some writers, and I will acknowlege, notwithstanding my opinion on the subject formed after due consideration, and more than once publicly maintained, I have come to think highly probable—if black vomit be a true hemorrhage from the stomach, then this disposition in the blood-vessels to effuse their contents, though not absolutely diagnostic, is of very regular occurrence. But in different years this terrible symptom shows itself with various degrees of promptness and certainty, and connects itself, more or less generally, with hemorrhages from the nose, mouth, and other orifices of the body. When this tendency to sanguineous diapedesis is once established, we have presented to our view the most appalling picture which pestilence can offer—one from which it requires the strongest nerve and the most devoted zeal to prevent our shrinking. The proportional frequency of this condition bears no relation to the other concurrent points in the history of yellow fever;—not to the extent of its diffusion, for this was greater in 1827 than it has ever been known here; yet these universal hemorrhages were then rare;—not to the proportional mortality, for, all circumstances considered, the epidemic of 1824 was most signal in this regard, and such hemorrhage was then comparatively infrequent. Thus, also, was it in 1817—another season deeply impressed upon the mournful remembrance of our city. In 1835—a summer in which our bills of mortality show but few deaths from yellow fever, and indeed the number of cases was not very great—there was a similar hemorrhagic tendency, and a very large proportion of the cases bled freely, whether they recovered or died. It has been intimated by some, and boldly urged by others, that certain modes of treatment have a definite influence upon this hemorrhagic tendency in the disease. On this point I shall soon make a few specific remarks—at present I will only say that in all climates, under all methods of management, writers who have described yellow fever speak of black vomit and hemorrhage as among its usual and characteristic features, the prominence of which varies in different seasons, without reference to any coincidence of known or cognizable circumstances.

I will take the occasion to avow that nothing has seemed to me so trifling and childish as the attempts that are perpetually repeated here to account for and explain the invasion of yellow fever by reference to influences and conditions of local or limited power and transient application. The abundant experience of a century and a half has proved it to be an epidemic—appertaining to our situation as indissolubly as the nature of our soil, our climate, and our geographical position. It is modified by the varying relations of the several contingencies that surround us, but is no less ineradicable than our native forest growth, and can no more be counteracted than the malaria of our immense low country.

Nothing can be more reasonable, however, than the belief that we can, by guarding carefully those subject to its attack, diminish their liability to be acted on by its causes, and prepare them, when they have been seized, to undergo less intense suffering from its symptoms, and run less risk of sinking under its fatal violence.

I need not tell those who hear me, that no palpable cause of yellow fever has yet been detected; nor need I remind you, that even when we enter with the most metaphysical nicety into the discussion of its probable origin under varying contingencies, we find ourselves still in the dark. If we assign it to the combined operation of heat, malaria, animal and vegetable effluvia, and the effect of personal habits, we are totally unable to explain why these causes, acting together, do not produce it as well in Calcutta as in Vera Cruz—in Milo as in Havana—in Jerusalem as in Seville. If we attribute its spread to contagion, why at some times it is transported across the Atlantic, and yet in this, the very land of its nativity, shall refuse to emigrate to our sister Augusta, or our terrified neighbours of Wilmington.

I make these remarks as leading to the announcement of the opinion which I have stood almost alone in supporting, viz.: that the cause of yellow fever, speaking of it as a unit, although it may consist of many combined influences, is in perpetual existence in our summer atmosphere; and that the various contingencies which have been looked to and discussed as its operating sources, are efficient merely in their relation to the subjects of its attack, by their influence in increasing the predisposition of such subjects. It is common to talk of intervals between the several incursions of yellow fever here. For myself I am fully satisfied that there are no such intervals. I do not believe that any single summer passes over us without offering cases of greater or less intensity. I surely need not speak of the extreme unwillingness of our profession to announce, or of the resentful reluctance of our community to admit, the existence at any time of yellow fever as epidemic among us. Who is not familiar with the angry and scornful terms in which the physician who is so unfortunate as to meet with and report the earlier cases, is spoken of by the commercial population of our city. And yet the blame which is attached to him of injuring our mercantile interests, and retarding our prosperity, is obviously imputable to those who, by endeavouring to suppress, conceal, or subtract from the truth, create and extend an indefinite panic. Terror is always increased by the shadows of mystery—and rumour never fails to exaggerate a danger, the true outlines of which are not clearly and positively defined.

I have said that the cause of yellow fever is perennially present here. I commenced the study of medicine in 1814; since which time, though frequently absent for portions of the year, I have not been out of practice more than two entire summers and autumns. In this long period of twenty-four years, but three have past in which I have not seen or known of the occurrence of a case or cases of yellow fever. In one of our healthiest years, 1829, three such came under my notice. You all recollect the slowness with which reports were published the past season. A physician in large practice told me that repeated instances had fallen under his care during the three weeks previous to the earliest report.

To what shall we ascribe the strange and unreasonable sensitiveness of the citizens of Charleston on this subject, if not to our present system of defective and uncertain reporting. Let our profession make fair trial of the opposite course of conduct;—let us declare that yellow fever is to be expected among us annually, and as much of course as catarrhal fever, sore throat, and pleurisy; let us publish unhesitatingly the first case and every case, with as little comment as if it were dropsy or rheumatism; let the editors of our newspapers abstain from discussion, which only serve to display the uncertainty and vacillation of public sentiment, and which injure us irretrievably abroad. In the meanwhile let us pursue the plain course of duty to ourselves and others. The danger being known and admitted, we shall not import or retain here during the months of August and September, northern or European strangers in our employment, any more than we would ourselves remain upon our rice plantations during the warm season. Business need not be suspended in the meanwhile, for surely in that period of comparative relaxation of commercial activity everywhere, after one year's crop is sold and before another is brought to market, we have natives enough and old residents who have, at whatever risk, attained proper acclimation to carry it on effectively.

As to the liability of our children to this autumnal pestilence, here, too, panic-terror has displayed its usual amplification. Far be it from me to speak lightly of a malady which has inflicted so many pangs in the hearts of the parents of Charleston; but if we look back through a period of twenty or thirty years, and sum up the numbers of native children who have fallen victims to yellow fever, they will be found far inferior to the subjects of meazles, hooping-cough, or cholera infantum; which, nevertheless, we talk of without dismay, and suffer under with resignation. Let us calmly look at our true situation and make ourselves familiar with its evils. They are in our case compensated by so many advantages, that the result of our examination will make us contented and happy.

Much has been said of the causes supposed to have increased the number and the proportional mortality of the cases of yellow fever in 1838:—

1. The great heat of the summer was undoubtedly a predisposing cause, but of this, I doubt not, it will readily be admitted, the influence was rather directed upon the bodies of the subjects than in the production of any alleged agent. The fever of 1821 was preceded by similar high temperature; but during that year there were vastly fewer strangers here for it to act upon.

2. The bad air evolved from the surface of the soil among the ruins of our late desolating fire has been imagined capable of much mischief. It is difficult here to arrive at truth; the proposition contains so many elements that its consideration is full of complexity. *a*, Something may be safely attributed to the quenching of so many culinary fires. Devastation, solitude, and disease, are often connected. *b*, The want of shade must have injured the workmen exposed over that

irregular unsheltered expanse, when thermometers placed among them would scarcely have fallen lower than 40°. *c*, High wages must have added as a stimulus to over-exertion, more injurious in an untried climate—to protracted labour and unaccustomed fatigue. Every one who rode through these melancholy squares by moonlight, must have heard the strange clanking of trowels and pickaxes in the silent and dewy nights of July and August.

These are the modes in which, as I am inclined to think, the fire was efficient in augmenting the terrors of our endemic pestilence; but the principal injury which it did to us was in producing so great a demand for labour as to invite an unexampled influx of the very worst order of strangers—a class of workmen everywhere peculiarly thoughtless and exposed, careless of themselves, and uncared for by their superiors, whose interest in them and their welfare is positively nothing; they are everywhere regarded, like Falstaff's men, "men food for powder"—or like the white slaves of the Romans sent, in Sallust's time, to die in the Maremma country by thousands. "Vile damnum!" This evil was much increased, too, by the large requirements of our city improvements, which employed hundreds of a similar class. If one of those men be tempted in future to remain here after the middle of July by any positive offers, or if he be kept in ignorance of the risk he is to run, his blood will be on the head of his employer. Enough will stay, though fully warned, and in spite of the clearest exposition of their danger, to make gradual additions to our labouring population; and if these be temperate and orderly, the proportion of mortality among them will not be so terribly impressive. The effect of the various habits and modes of life is sufficiently well understood, with this exception,—too exclusive stress seems to me to have been laid upon intemperance as the source of evil. I will not surely be suspected of a disposition to palliate the influence of this destructive habit; but as Chapman has remarked in regard to cholera, much is to be ascribed to the effect of hard labour in diminishing the elasticity of the constitution, and taking away its powers of resistance to disease. The hard-working woman, the overtasked child, sinking already under the exhaustion of our heated and inelastic atmosphere, die almost as surely as the drunkard. It is to the peculiar fitness of the subjects attacked to sink under the disease, and the unprecedented number of such subjects collected here, that I attribute the gloominess of last summer's epidemic. Few native children were attacked, and but few died during the whole season.

It is on every side acknowledged, I believe, that the proportional mortality of the summer of 1838 was greater than usual; and I have mentioned the circumstances that seem to be likely to account for the fact. It is next important to inquire into the effects of treatment of the disease, and to ascertain whether any improvements have been made in the management of a pestilence with which time and its frequent recurrence should have made the profession somewhat familiar. From the year 1817 up to the present time I have had, as above stated, numerous opportunities of watching the disease and the influence of remedies upon it. I have myself tried, and have observed, under the sanction of others, an almost infinite series of experimental applications; and have, to the best of my ability, drawn careful inferences. On this point, however, as well as on a great many others, physicians have agreed to differ; and this amicable determination should be carried out so thoroughly as to induce a charitable, or at least a cautious and reserved mode of speaking in regard to the several plans pursued.

It appeared to me that this diversity of plans of treatment was brought out into uncommonly full relief during the past season, and the common people, as well as practitioners, exhibited much partizan feeling in defence and in opposition. With laudable assiduity some of the younger members of the profession devoted themselves to discover better modes of practice than had been known to their elders. And I should gladly have recorded a triumph so useful to humanity, as would have been gained by their success. But when I take a retrospective view of the practice a quarter of a century ago, and compare the data then furnished us with those of the most recent period, I am forced to the melancholy conclusion, that in all this time we have gained nothing, and that no greater success in the contest with this terrible malady is *even claimed* for the present generation of physicians than for their predecessors.

The modes of treatment in vogue between twenty and thirty years ago were the purgative,—the purgative and diaphoretic,—the depletory, consisting chiefly in blood-letting, topical and general,—the sedative and sub-tonic, to use the phrase of its introducer, Dr. M. Irving,—and the mercurial;—the last but one has been abandoned in later days, and the emetic and stimulant, or Thomsonian, added. Some of the advocates of these plans are exclusive in their devotion; others again are eclectic, and combine the remedies suggested by their opponents with their own, according to their peculiar views.

In the earlier days of my professional life the lancet was used occasionally by every member of the profession—purgatives resorted to by all, and mercury very generally employed. Dr. M. Irving stood almost alone in his unwillingness to resort to these usual remedies—depending almost exclusively upon the acetate of lead, which he administered in the early stage of febrile excitement as a sedative —in the second, stadium as an astringent to restrain hemorrhage, and in the last stage of debility, as a sub-tonic, or safe stimulant and reinvigorator. His success, although he maintained his specific opinions in an ingenious pamphlet which well deserves republication, was not such as to bring over any convert to his notions and practice. Emetics have been prescribed by but a few physicians, and cautiously. The less irritating purgatives, with or without diaphoretics, have retained their credit, and are still much trusted to, it seems to me, deservedly. I have watched attentively the effects of the lancet in the hands of judicious practitioners, who have afforded me the opportunity to witness and record the results of its employment. I have not seen in more than one or two cases any decided impression made by it favourable to the patient. Of those whom, in a practice of twenty-four years I myself have bled, there are but two survivors. The statement made by those who have laid most stress upon blood-letting, do not, I think, imply any obvious advantage gained by it. I shall hardly remark upon the Thomsonian practice, further than to remind you that its advocates have advanced loud boasts of its success, and put forth a public challenge in its favour. The cold bath, which on former occasions was among the principal means used by a great many physicians for subduing the violence of the early symptoms of the attack, and relieving the worst sufferings of the patient, was little if at all employed during the past summer. Accustomed as I am to place the highest confidence in it as a palliative and safer and better substitute for the lancet, I did not advise it in a single case of the late epidemic. The surface was, in my patients, so universally moist and relaxed, as to deny me all fair opportunity for its administration.

As usual, debate ran high concerning the mercurials, and the objections urged and replied to a thousand times, year after year, were again, in 1838, urged and replied to anew. Some patients died in spite of the remedy, and some recovered with loss of teeth and alveoli. It is fortunate that there exists such obvious difficulty and risk in the employment of this powerful drug, which otherwise would supplant nearly the whole apparatus medicanimum, and reduce the practice of physic to a mechanical art. We may *bleed* an army below the recuperative point, and yet they shall die with no single tell-tale symptom: nay, as Marshall Hall has shown, they may sink with such appearance of undue excitement, that the only doubt remaining shall be whether they have been bled enough. And when they are interred their friends shall find ample consolation, like the widow Dunglison tells us of, in the fact, that they have received all the aid in the power of art to effect—for she said, "My husband was bled seven times." Or a patient may be *purged*, as in a case to which I was called in consultation, 145 times in less than four days. The physician who had prescribed nothing but snake-root and salts received high commendation from the surviving relations of the patient, who gratefully acknowledged that not a grain of calomel had been given him; or he may be urged with emetics until the nisus of vomiting shall have peeled off the mucous coat of the stomach, and nothing shall betray the evil done: or he may be soothed with ptisans, ice and iced drinks, gum water and leeches, and thus slide tranquilly, as far as physic is concerned, into a silent grave.

But if his gums be sore and his tongue ulcerated, and he then die—or if he be treated unsuccessfully with calomel, no matter what symptoms ensue in the last stage of existence—it will be in vain for his unfortunate physician to attempt disguise or concealment. The original disease is forgotten with all its sufferings and its risks, and everything evil attributed to the remedy. It has always required some moral courage to avow oneself a mercurialist; but of late, since the loud Thomsonians have joined the cry against the mineral, it has become deafening. For my own part, *Odi profanum vulgus et arceo*, I shall never abandon the most powerful article of the materia medica because it has occasionally proved too powerful for the skill of the physician, however sagacious; or for the impaired constitution of a patient prostrated by the most malignant form of fever.*

One remark more. I find in several of the tables notices of the supervention of *mania à potu* in the course of yellow fever. I do not of course deny this to be possible, but I should imagine it to be very rare. That a state of the brain and nervous system somewhat resembling *delirium tremens* takes place in many types of fever, is an observation often made; but this condition is quite as likely to present itself in women and children, and in the most temperate individuals, as in the worst subjects of habitual intoxication. Dr. Whiting (see *Lancet*), affirms it to be true in the epidemic *typhus mitior* of London in 1838. It demands and is relieved by the analogous treatment—thus carrying the resemblance further than the mere concurrence of symptoms: and it is astonishing to what an extent the administration of opium may be carried in such cases. In the autumn of 1835 a young gentleman of this city, of the most regular and moral habits of life, an utter stranger to excess of any kind, took, under the care of Dr.

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* *Post hoc, propter hoc,* is a rule applied universally against the mercurial treatment when unsuccessful—but sparingly urged against any other mode of practice whatever. This partial employment of it is evidently unfair.

Moultrie and myself, an amount of opium scarcely credible. He reached the dose of three grains every two hours by gradual increase, and after taking several such doses, as gradually suffered a diminution of the quantity. He had thrown up the black vomit in considerable abundance, and had bled freely from almost every outlet. He recovered finally, though slowly.

(From the Brit. & For. Med. Rev.)

ON DISEASES OF THE KIDNEYS.*

M. Martin Solon, author of one of these volumes, is physician to the Hospital Beaujon, at Paris, an institution, comparatively speaking, very rarely visited by Englishmen, on account of its remoteness from the School of Medicine, and other more important scenes of medical action. Hence it happens that its physician is much less known on this side the channel than he deserves to be. Some experience in these matters enables us to affirm that there are no wards in the French hospitals where the student will enjoy a better opportunity of acquiring a sound acquaintance at once with diagnosis and the principles of rational treatment than in those of M. Solon. We do not mean to assert that there are not more profound masters of diagnosis in Paris, but we do maintain that in the union of the two arts—in the power of detecting and of combating disease—he is, generally speaking, superior to most of his countrymen, and entitled to a very high rank among contemporary practitioners. M. Solon's mind may be characterized as especially of a practical kind. The remaining writers, whose names are enumerated in our list, are sufficiently well known to fame to render the ceremony of introduction superfluous.

Among the works of which the titles appear at the head of this article, M. Rayer's is the only one purporting to embrace a complete view of the pathology of the kidney; we shall, therefore, take it as our groundwork in the present review, and notice, in due season, with the full detail their importance merits, the monographs devoted specially to the illustration of Bright's disease.

M. Rayer's volume opens with a very extensive section, entitled *prolegomena*, wherein, in addition to a general view of the diseases of those organs, we find the normal anatomy of the kidneys, the alterations they undergo from the progress of putrefaction, and the various changes of constitution to which the urine is subject, treated of with very considerable care. Through this part of the work we cannot, for very obvious reasons, follow our author closely, but we shall advert to such of its contents as appear likely to interest the English reader, from their novelty or practical bearing.

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* 1. Cases and Observations, illustrative of Renal Disease, accompanied with the Secretion of Albuminous Urine. By Dr. Bright. (Guy's Hospital Reports, No. II., 1836.)

2. De l'Albuminurie ou Hydropisie causee par Maladie des Reins, &c. Par le Dr. Martin Solon, Medecin de l'Hopital Beaujon, &c. Paris, 1838. 8vo. pp. 480. Avec planches coloriees.

On Albuminuria, or Dropsy, caused by diseased Kidney. By M. Solon, M.D.

3. Traite des Maladies des Reins et des Alterations de la Secretion Urinaire, &c., avec un Atlas in Folio. Par P. Rayer, Medecin de l'Hopital de la Charite, &c. Tome 1, pp. 625. Paris, 1839.

Treatise on Diseases of the Kidneys and the Morbid States of the Urinary Secretion, &c. By P. Rayer, M.D., &c.

4. On Granular Degeneration of the Kidneys, and its connexion with Dropsy, Inflammations, and other Diseases. By Robert Christison, M.D.,F.R.S.E., &c. Edinburgh, 1839. 8vo. pp. 288.

5. Observations on Abdominal Tumours and Intumescence; illustrated by cases of Renal Disease. By R. Bright, M.D.,F.R.S., &c. (Guy's Hospital Reports, No. VIII., April, 1839.)

In imitation of his countrymen, who have made other viscera the subject of particular study, our author appears to have examined with much perseverance (and we by no means think such researches valueless, though it is certain they have not in other instances led to any useful conclusions,) the weight of the healthy kidney at different ages. The results of his inquiries are laid down in eight tables; and though implicit confidence in their correctness may be reasonably refused, on the ground of the limited number of individual cases furnishing them, yet the following seem worthy of attention. We learn, for example, that the weight of the kidneys is never accurately the same in different subjects of the same age; that the development of those organs, though it is progressive in new-born infants, is in them subject to very remarkable individual varieties; that as a result of the foregoing propositions it is hardly possible to feel certain of the existence of renal atrophy or hypertrophy, unless in cases of very notable deviation from the normal standard; that the kidneys are lighter in females than in males; that the left is generally heavier than the right; and that in old age both organs ordinarily weigh as much as in adult age. The mean weight in thirty males, from æt. 16 to 76, was, for the right organ, ℥iv. ʒiij.; for the left, ℥ivss.; this weight is not always proportional to the size of the organs; in other words, the density of their substance is variable.

In the minute description of the anatomy of the kidneys, we observe some statements valuable from the light they throw on the pathology of certain renal affections, concerning which our knowledge has hitherto been exceedingly obscure. These anatomical details will be most usefully referred to in our account of the diseases in which the tissues described are concerned; but we may meanwhile instance the discovery of a distinct cellular membrane, between the fibrous capsule and substance of the kidney. The existence of this membrane explains the tendency to suppuration now and then observed in the locality it occupies, as also the pretty frequent occurrence of hemorrhage in the same situation, and the occasional investiture of the organs by a very thick and firm lamella—the membrane in question in a state of hypertrophy—independently of the true capsule.

The very moderate degree of sensibility possessed by the kidneys in health is familiarly known, and easily ascertainable by pressure, percussion, and other similar means. But the point has been further demonstrated in the lower animals by a number of experiments originally executed by M. Combaire, in 1803, and lately repeated, somewhat needlessly, as it appears to us, by M. Rayer and his pupils. The kidneys were drawn out from the abdomen by these experimenters, manipulated, cut, torn, and burned with a variety of caustics, without the subjects operated on evincing signs of suffering. The practical inference from these facts is that very trifling pain or tenderness on pressure in the region of the kidney is a point of considerable consequence, and one which the medical observer should not rest satisfied without tracing to its cause; they also explain how it is that nephritis is frequently a latent disease, and in part account for the prevalent belief as to the rarity of renal inflammations.

The researches of Müller, of Straus Durckheim, and of others, on the conformation and structure of the urinary organs of animals of simple organization appear to M. Rayer unlikely to elucidate, in any marked degree, the mode of production of urinary disorders and renal lesions in the human subject; nevertheless, he conceives that, inasmuch as they have proved the fact of the secretion of urine by organs of extremely different appearance, they render intelligible the persistence of their function in kidneys that have undergone material and extensive disorganization. Now we consider it worth our while, as this view is founded on analogical reasoning, the most delusive as well as the most attractive from its simplicity of the processes whereby conclusions are arrived at, to show that it is fallacious. In truth, if such be the explanation of the fact adverted to, the inference is just, that extensive lesion of organs, possessing a closely similar structure throughout the animal series, ought not to be found to coexist in the human being with continued manifestation of activity on their parts. Now is the fact so? Clearly it is not. Do we not find that the liver continues to secrete bile when a very minute portion of it remains in a healthy condition; that the lungs exercise their wonted influence on the blood traversing them (in an imperfect manner, it is true,) when they are almost totally disorganized; that the power of thought and of reason is occasionally manifested by brains of which a large proportion is unsound? Nay, more; is it not an incontestable fact that individuals may live—and live with a certain amount of enjoyment after every important organ in their frame has become profoundly disorganized! M. Rayer's erroneous notion is an effect of the doctrine so generally held by French pathologists, that functional derangement is uniformly proportional to the organic lesions cognizable by our senses,—a doctrine which has exercised and still continues to exercise a most baneful influence on their bed-side practice.

The importance of a thorough acquaintance with the changes induced in our tissues by the progress of putrefaction is now fully acknowledged by morbid anatomists; nevertheless, only a one-sided view of the subject has as yet been taken. Inquiry has been limited to pseudo-morbid appearances, and to the signs distinguishing these from conditions originating in disease; nowhere do we find a serious and methodized attempt made (incidental allusions to them are occasionally met with) to appreciate the *pseudo-healthy* appearances, if we may be allowed the expression, which the cessation of vital action sometimes induces in really diseased parts. Yet this is a field which may be most profitably cultivated by those desirous of giving the study of morbid anatomy all the precision of which it is capable. Our author does not swerve from the ordinary plan in his general view of putrefactive changes in the kidney, and enumerates alteration of colour, separation of the fibrous capsule, emphysema, and the effects of desiccation and of maceration as the chief points for consideration.

The phenomenon of hypostatic engorgement of the cadaveric species is of such regular occurrence in the kidneys, that, according to M. Rayer, whenever their anterior is more injected than their posterior portion, in subjects who have been laid, as is usual, on the back, this condition is to be ascribed to morbid action. One of the most remarkable effects of imbibition of blood, when considerable and affecting *both* substances, is, we are told, the assimilation of their respective colours, a condition which has been very frequently mistaken for the effect of disease. The separation of the fibrous capsule is, in cases where abdominal putrefaction advances with rapidity, a very usual phenomenon, and is directly produced by the softening of the cellular membrane already alluded to. This separation of the capsule does not occur spontaneously in kidneys affected with chronic inflammation, in consequence of the thickening and abnormal adhesion of the proper cellular membrane to its internal surface.

There are some peculiarities in the cadaveric emphysema of the kidney. That it should rarely exist if there be little blood in the vessels, and not be developed at all when they are almost free from that fluid, is sufficiently intelligible; but why it should be absent, as M. Rayer avers is the fact in some cases, when the organs are perfectly rotten, disengaging a strong odour, of greenish hue externally, while both substances are saturated with blood, is not easily explicable.

We are given no original instruction on the method of distinguishing putrefactive from morbid softening; and the description of the changes to which the *colour* of the organs is liable increases the perplexity one is likely to feel pretty often in deciding on its causation. So rapid are the alterations of tint, that M. Rayer has seen an artist sadly puzzled to catch the original colour. The only way of avoiding effectually this source of error consists in examining and noting down the colour of the surface the moment the fibrous capsule is removed.

Maceration has, as might be foreseen, the effect of rendering the peculiarities of some morbid conditions unusually distinct, those of others more obscure, and of depriving a third set of all their characteristic qualities. Among those rendered more apt for examination are the granulations in the affection described by Dr. Bright, as that observer had himself stated. The impregnation of the surrounding cortical substance with water renders it semitransparent, and so throws out the dull, milky hue of the granulations. According to M. Rayer, those bodies are usually more distinctly visible at the inferior part of the right kidney than elsewhere; this he attributes to putrefaction commencing earliest in this portion of the organs.

M. Rayer's classification of renal diseases is comprehensive, and gives fair evidence of his possessing a spirit of order and method. There is no possible morbid condition to which the kidneys are liable that does not here find its particular place; but at the same time we must remark that it can hardly be considered correct to class congenital anomalies and mechanical injuries as diseases; nor is it easy to understand why certain abnormal states should occupy the ground they do. Why, for example, hyperæmia and anæmia should follow not precede inflammations, or why gangrene should be separated widely by totally dissimilar conditions from those same inflammations. Possibly the concluding volume may explain, though it will be difficult for it to justify this departure from natural arrangement. We subjoin a table of the principal heads, omitting all their numerous subdivisions.

A. *Diseases of the Kidneys.*

1. Wounds, Contusions, Lacerations.
2. Inflammations
    - Nephritis, Pyelitis, Pyelonephritis, Perinephritis, Renal Fistulæ.
3. Hemorrhages.—Idiopathic, Symptomatic, Endemic.
4. Hyperæmia. Anæmia.
5. Hypertrophy. Atrophy.
6. Tumours formed by retention of urine
    - Hydronephrosis,
    - Kysts.
7. Diseases of elementary tissues
    - Veins,
    - Arteries,
    - Lymphatic glands and vessels,
    - Nerves.
8. Morbid tissues and products
    - Homologous,
    - Heterologous.
9. Foreign bodies
    - Animate,
    - Inanimate.
10. Gangrene.
11. Anomalies in
    - Number,
    - Situation,
    - Configuration.

B. *Special Alterations of the Urinary Secretion.*

1. Quantity
    - Suspension, Diminution, Augmentation,
    - Diminution of one or several natural principles,
    - Increase of some natural principles.
2. Composition
    - Presence of adventitious principles, whether of morbid formation or introduced from without.
3. Mode of excretion. Europlania.

The same arrangement is followed for the morbid states of the ureters and supra-renal capsules as for the kidneys themselves.

A glance at this table will suffice to show the practical sagacity evinced by M. Rayer in abstaining from a regular system of generalizations on a set of diseases so utterly dissimilar in cause, nature, course, and termination. The few he indulges in, especially those regarding the relations of renal affections to those of other organs, are interesting and apparently well founded; but more important matter for notice is elsewhere furnished in abundance.

In proceeding to examine a patient whose urinary organs are suspected to be the seat of disease, inspection, manual examination, and percussion of the renal regions should first be had recourse to; of this all will admit the truth; but so important is it for practitioners to act on the admission, that we may be admitted to state in a few words some of the diagnostic information derivable from those methods of exploration. Thus, for example, in certain cases of cancerous diseases of the kidney, of pyelitis (inflammation of the pelvis and calices), of hydronephrosis (tumour formed by retention of urine), &c., those regions become manifestly prominent or otherwise deformed; whether the altered shape really depend on a renal affection, or, as may with almost equal *prima facie* probability be the case, on an intestinal, hepatic, splenic, or ovarian tumour, or subperitoneal abscess, &c., must be determined by other means, among which manual examination first presents itself. By this the degree of sensibility of the kidneys, and the extent, form, direction, mobility, and resistance of visible intumescences may be ascertained. The importance of any notable tenderness has already been adverted to; we may be guided in regarding such tenderness as dependent on the kidney in contradistinction to the surrounding organs, if it be most distinctly marked posteriorly, "as pain in the corresponding part of the peritoneum, large intestine, liver, or spleen, is in general most felt by the patient when pressed or percussed on the antero-lateral part of the flanks." Percussion will further aid in making out the origin of tumours in the lumbar regions; but the dull sound elicited by that process may, it must not be forgotten, be due to enlargement of other solid organs; the commemorative symptoms, as well as those present at the time of examination, must therefore be diligently scrutinized. It is needless to dwell on the importance of a careful and thorough inquiry into the state of the urine; the normal or abnormal characters of that excretion may in certain cases at once settle the question of the absence or presence of serious disease in the kidney, a fact with which the labours of Prout and Bostock have long familiarized English practitioners. But, as our author very justly remarks, the whole process of examination we have thus briefly noticed will not, even if extended to the ureters and bladder, prostate and urethra, and followed up by an inquiry into the causes of the affection, be sufficient, in all cases, for our purposes of diagnosis; the state of the constitution must be well ascertained before we can safely determine that point, or the mode of treatment advisable. Two instances will be enough to show the practical truth of this statement: in many cases of nephritic colic, and lithic acid deposition, it is the hereditary or acquired arthritic diathesis that the physician must labour to remove; the mere exhibition of alkalies would, in such cases, relieve a symptom, but nothing more; again, in cancerous or tuberculous diseases of the kidney, it is manifest that our therapeutic measures must be directed against the vitiated state of constitution giving rise to those disorders.

The next 200 pages of M. Rayer's volume are devoted to general considerations on the urine in the state of health; on the different characters it assumes from differences in respect of diet, age, &c.; on the modes of examining it, the modifications of its natural constituents, as well as the accidental introduction of foreign principles; on the clouds, sediments, and cremors occurring in it; on the phenomena of its putrefaction, and the relations subsisting between its morbid states and those of the blood and other fluids. We are bound to express our most unqualified approbation of this part of the work; it gives evidence of the soundest and most extensive erudition, as well as of a degree of practical familiarity with the subject treated, not easily to be surpassed. It is pleasing to observe, from its contents, that the labours of our own countrymen have very clearly had the most important share in giving its existing perfection to urinary pathology; while it is not a little creditable to M. Rayer, living as he does in a country where the Practical stands extremely low in general estimation, to have comprehended the sterling excellence of our contributions to useful medicine.

M. Rayer shows that, historically considered, the progress of knowledge respecting the urine may be divided into three periods: the medical, the chemical, and the medico-chemical. The first commencing with Hippocrates, extended to the time of Van Helmont, and was marked by the exclusive attention given to the outward appearances of the urine. The second, of which M. Rayer is probably correct in fixing the origin with Van Helmont, has been chiefly illustrated by the analytic labours of Bellini, Willis, Boerhaave, Rouelle, Scheele, Wollaston, Berzelius, Marcet, &c., and cannot be said to have yet terminated. The medico-chemists made their first appearance in the person of Cruickshank, who set the example of studying the urine especially in its relations to morbid states of the system, basing his researches on accurate chemical analysis; he has been worthily followed by Nysten, Prout, Brande, Henry, Bostock, Christison, Rees, and many others. Further, a new or rather a revived method, for it appears to have originated with Leeuwenhoeck, of studying urinary deposits, namely, with the microscope, has been of late pressed into the service by M. Donné; and, judging from the valuable results already obtained by that gentleman, and MM. Vigla and Quevenne, the microscopical is likely to exercise quite as important an influence on urinary pathology as any other mode of investigation.

The results of M. Rayer's experiments on the urine of infants, performed in conjunction with the distinguished chemist Guibourt, do not accord with the opinions expressed on the subject by a variety of writers. Thus, instead of finding the urine of infants muddy at the moment of emission, they distinctly ascertained, as they state, that it is then perfectly transparent, and further, that it does not become turbid more rapidly than that of adults. The urine of infants at the breast they found to be neutral, and without urinous smell when voided, though it evolves that peculiar odour during the process of evaporation; no appreciable formation of nitrate of urea takes place when its extract is treated with nitric acid. The urine of a healthy infant, three years old, furnished, on the contrary, a full proportion of urea, but none of the benzoic acid, which almost all chemical writers, on the authority of Fourcroy, enumerate among the constituents of the renal secretion in children. We think it right to produce this statement of our author, especially as it is confirmative of Dr. Prout's opinion on the point. M. Rayer also declares his disbelief of the current notion that an excess of phosphate of lime is characteristic of the urine of persons advanced in years; his incredulity seems to rest on a very limited number of experiments.

The subject of specific gravity is examined at some length by our author;—without containing anything positively new, his summary embraces all the facts regarding it, which are firmly enough established to be relied on in practice. The different degrees of confidence with which this character of the urine is regarded by different observers as a diagnostic sign is extremely remarkable; while some reject it altogether as the most deceptive of guides, others look upon it as furnishing most valuable indications. Those who adopt the former mode of thinking (instance M. F. d'Arcet who has made a series of experiments on the subject, whence it would result that the specific gravity of normal urine varies from 1,001 to 1,060*) have evidently done so out of mere disgust at the difficulties attending the proper appreciation of the various circumstances capable of influencing the character in question; the holders of the latter have unwisely generalized the results of a few favourable cases. The truth is, that diseased conditions do exist, but they are limited in number, wherein it is possible to obtain useful information from the variations in density of the urine. The first point to be ascertained is the average healthy specific gravity: now the multitudes of circumstances influencing this, such as temperature, the quantity and quality of food and drink, the state of the bowels and of the cutaneous and pulmonary exhalations, the period after exercise and meals at which the urine is voided, the length of time it has remained in the bladder, as well as that which has elapsed between the emission and examination, the hydrometer employed, &c., render it doubtful, whether any one will be found willing to undergo the vast labour such an investigation would require. Meanwhile, whose approximate estimate is to be regarded as the most accurate? Are we to accept as correct the calculation of Dr. Prout, which fixes the mean density at from 1,010 to 1,015; or trust to that of M. Rayer, who gives us the number 1,018, or to Drs. Bostock and Martin Solon, who consider 1,020 nearer the real mean; or to adopt the opinion of Drs. Gregory and Christison, who assert that it is so high as 1,024—1,025? Trifling as these differences may appear, they are capable of causing real discrepancy of opinion as to the morbid or normal condition in this respect of certain specimens of urine: a density of 1,020 will show that fluid to be normal in the patients of Dr. Bostock; from five to ten degrees above the healthy standard in those who consult Dr. Prout, and five or six below it in individuals who chance to be under the care of Dr. Christison. Now, in illustration of this, we may state that the last-named observer and M. Rayer do not accurately agree respecting the condition of the density of the urine in the early stage of Bright's disease, Dr. Christison declaring that it is moderately lower, the French writer that it is occasionally superior—as is the case in the only examples given in his accompanying table of densities—to the healthy mean. The want of accordance arises in some degree at least from their different notions respecting that mean.

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* L'Experience, No. 55, Aug. 1838. This paper deserves to be read.

The sources of inaccuracy increase materially in various conditions of disease; the density of the fluid undergoes marked changes, which we know not how to explain in such cases. An interesting example of this is given by M. Rayer, in the case of an individual affected with chronic pyelitis; the urine or this man marked 1,008·4 and 1,016·4 at eight o'clock in the morning on two consecutive days, though no change had taken place in the conditions known to affect the specific gravity of the fluid. Again it varied from 1,007 to 1,018 from one day to another in a patient of M. Solon affected with Bright's disease; no cause for this peculiarity was discovered,

From these considerations it results that, in order to possess diagnostic value, the variations in specific gravity must be at once well marked and persistent; in diabetes and in the advanced stages of Bright's disease, where all are agreed as to the real utility of this sign, it is thus characterized. M. Rayer gives a table of the densities observed in a variety of local and general, trifling and serious disorders: we confess we do not see its value, for it expresses the mean results of *five* examinations only in each disease.

We shall not pursue this subject further for the present than to state that the specific gravity of the urine may be lower than that of the liquids used as drink. Thus M. Rayer informs us, that one of his patients, who drank a bottle of artificial Vichy waters every morning, frequently voided transparent urine in his presence, of lower density, even when cool, than that mineral solution.

Some points in M. Rayer's section devoted to the history of that very important principle, urea, deserve notice. Amongst these is the method—valuable from the facility of its employment—of estimating roughly the proportion in which it is present in any given urine: a drop of the fluid is poured on a plate of glass; in warm weather this small quantity is in a few minutes sufficiently condensed by spontaneous evaporation (in the winter the aid of gentle heat is required), to allow of the formation of a magma or crystalline mass on the addition of a similar quantity of nitric acid. Examined under the microscope this is found to be composed of brilliant acicular crystals of nitrate of urea.

Respecting the variations to which the proportion of urea is liable in disease, our author's experience has convinced him of the rarity of cases attended with an excessive formation of that principle, and, on the contrary, satisfactorily proved the frequency of morbid states in which its proportion falls below the healthy standard; the common occurrence of the latter he is probably right in ascribing as much to the abstinence and lowering regimen enforced for their cure, as to the direct influence of the diseases themselves. But there is another cause of diminution in the proportion of urea discoverable by analysis, which has only been of late years suspected to exist; we allude to the decomposition presumed to be undergone by the principle in question under certain conditions. The notion of its possibility seems to have originated with Wöhler, who remarks that "the transformation of urea into cyanic acid and carbonate of ammonia, and that of uric acid into urea and cyanic acid, may at a future period become important in a physiological point of view, and throw light on the origin of certain diseases and abnormal sediments of the urine."* The plausibility of this view is recognised by M. Rayer, for he inclines to attribute the deficiency of urea and lactic acid, (not uric, as erroneously printed in his book,) detected by MM. Cap and Henry† in a specimen of vicious urine, to the occurrence of such decomposition, on the ground that viscidity is often the result of the action of ammonia on mucus and pus, and may have been so induced in the case adverted to. Further on, he speaks more unreservedly; and affirms that in the majority of cases of inflammation of the mucous membrane of the pelvis and bladder, consequent on retention of urine in those cavities, the urea undergoes decomposition, and that the carbonate of ammonia resulting therefrom must be taken into account in estimating its primitive proportion. He even considers it probable that, in a certain share of the cases in which the urine possesses an alkaline reaction, independently of the action of medicines, immediately on being voided, the quantity of urea obtained by analysis will be less than that primitively secreted. Nevertheless, he hardly appears firmly persuaded that alkalescence is in such cases induced subsequently to the act of secretion. He elsewhere, indeed, (in alluding to the fact ascertained by M. Guibourt, that urine which has remained in the bladder for a certain period, and proves alkalescent at the moment of emission, contains proportionably less urea than the healthy fluid,) remarks that, "as urine which is not exposed to the air, does not putrefy even at a temperature of 32° R., it is probable that that fluid, when long retained and containing carbonate of ammonia, owes this peculiarity to an act of secretion rather than to putrefaction." But the experiments on which this statement is founded, were, it must be remembered, performed on healthy urine; whereas, that spoken of by M. Guibourt had been retained in the bladder with blood, mucus, pus, or other principles acting as alkalies, and capable of promoting the decomposition of urea: the two kinds may be demonstrated to comport themselves differently, when placed in hermetically sealed vessels. On the other hand, a certain number of facts have been observed, tending to show that urea may be converted into carbonate of ammonia during the act of secretion; or, if this mode of expression be objectionable, that the latter may be elaborated by the kidney instead of the azotised principle. The strongest fact of this kind—its conclusiveness, as admitted by Drs. Graves and Willis, may be doubted—is one published some years past by the former of these physicians. The patient in this case was made to empty his bladder thoroughly, and half an hour after to discharge the urine that had accumulated in the interim; this last was instantly analysed and found to contain an abundance of carbonate of ammonia, but not a trace of urea.

While on this subject, we may state that M. Rayer completely denies the correctness of the common notion as to the alkalescence of the urine in typhoid fevers. In *fifty* cases examined at the most marked periods of the disease, he only found it alkaline *twice;* even when retention of the contents of the bladder

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* Journal de Pharmacie, vol. xvi., p. 300.

† On detecting the deficiency of these principles, it occurred to the above-named experimenters, that an artificial combination of them might be administered advantageously in certain conditions of the urinary passages. Accordingly, they set about the manufacture of the salt, and succeeded in procuring it by decomposing oxalate of urea with lactate of lime: they promise to make public the result of its exhibition. It is right to mention, that these chemists suppose urea to exist in the urine as a lactate, and that to its state of combination is due the difficulty of separating it from the fluid without the aid of nitric acid. They represent that when they had removed the free lactic acid from the urine with an excess of hydrate of zinc, they were enabled easily to obtain natural lactate of urea, crystallized, and perfectly identical with specimens of the salt directly prepared.—For further details we must refer to L'Experience, No. 39, vol. i, p. 621.

This book is the pr
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occurs in this affection, he affirms that they are almost invariably acid. How are we to reconcile these very confident declarations with general belief,—how especially with Dr. Willis's experience, which authorizes him in sometimes basing a flattering prognosis on returning acidity, even in cases where nothing else betokens improvement?*

We shall scarcely be accused of travelling out of the region of purely practical disquisition, if, with M. Rayer, we enter slightly into the question of the cause of the state of solution in which lithic acid exists in healthy urine. Various chemists have each offered a different explanation of the well-known difficulty attending its dissolved condition therein: Dr. Prout's theory is admitted to be the most plausible and ingenious yet advanced. This gentleman, as is well known, conceives that the acid in question is not present in a free state, but in combination with ammonia in such proportion as to form a superlithate of that base. Now, as that salt possesses a comparatively high share of solubility, if the notion of its existence be correct, the solution of the lithic acid ceases to be a mystery. It is needless to recapitulate Dr. Prout's well-known arguments, but we shall lay before our readers such evidence against and in favour of the combined condition of the acid, as more recent inquiries have supplied.

M. Donné, whose interesting contributions to microscopical studies have more than one been noticed in this Journal, espouses the opinion of Dr. Prout. He maintains that lithic acid is always found in the urine crystallized, and not in an amorphous powder. On the other hand, M. Quevenne, while he admits the possibility of their occasionally containing a certain share of urate of ammonia, affirms that all the amorphous sediments of acid urine observed by him, whether they were gray, pink, or laterititous, were essentially composed of lithic acid in union with animal matter; and that, when recent, they gave but very slight indications of the presence of ammonia. "No doubt," he adds, "if they are examined some time subsequent to emission, the alkali may be very distinctly perceptible, and may even be found to have given rise to the formation of blackish globules consisting of lithate of ammonia." These globules occasionally appear a few hours after the urine has been discharged, a circumstance which, as M. Quevenne admits, justifies a suspicion of a considerable quantity of lithic acid having been in combination with bases at the moment of emission.

M. Donné adduces the two following strong facts in favour of Dr. Prout's theory: first, the sediment of acid urine redissolves, exactly as lithate of ammonia is known to do, if the fluid be boiled, whereas lithic acid once crystallized cannot be so dissolved; secondly, the action of a weak acid, such as the nitric diluted with from eight to ten times its weight of water, has no effect on lithic acid, but decomposes the amorphous sediments and transforms them into perfect crystals of that acid. M. Quevenne, however, is not without his answer to these allegations; both facts, according to him, admit of a different explanation from that proposed by his opponent. Suppose, he argues, the amorphous powder to be composed of lithic acid in the condition of a hydrate, and there will be no greater difficulty in accounting for its solution by ebullition than for that of a lithate; and again, whether the acid be combined with ammonia, animal matter, or water, the production of crystals of lithic acid, by the action of a weak agent of the same class, is equally intelligible. M. Rayer professes himself, as we think, on very just grounds, best satisfied with the reasoning of M. Donné.

Passing over a variety of useful matter, as our limited space obliges us to do, we arrive at the section treating of the organic products accidentally introduced into the urine. It results from recent microscopical investigations—the discovery originated, we believe, with M. Raspail—that the genito-urinary epithelium, as well as that of other mucous membranes undergoes continual desquamation in the natural state, and that in certain diseased conditions, this physiological process acquires morbid activity. Examined under the microscope, the resulting scales are found to be of the extremest delicacy, and transparent, except where marked by fine lines; some points appear to correspond to minute openings; their form is irregular, their border ragged. In the female, the use of the catheter will decide whether they come from the pudendum or the proper urinary passages: that their separation does really take place in the most remote parts of those passages is proved by their being discoverable in the urine found in the calices and pelvis after death.

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* On Urinary Diseases, p. 128. Library edition.

Among the adventitious matters appearing in the urine, the blood in substance, or its constituent principles individually, hold the first rank in point of importance. The researches which have of late years been made in this country, and followed up with vigour in France, further show that not one of these claims so large a share of the practitioner's attention as *albumen.* Our readers will therefore not be surprised, especially when they consider its comparative novelty, if we enter at some length into the subject of albuminous impregnation of the urine. Our remarks shall for the present be strictly of a general kind.

The presence of albumen in the renal excretion may be established by the majority of reagents which serve for its detection in pure water; but the evidence of many of these cannot in the case of the urine always be trusted to. The combination of three characters, coagulability by heat and by nitric acid, and non-precipitation by acetic acid, affords and alone affords incontestable evidence of the presence of albumen. The necessity of the coexistence of these characters is frequently overlooked, and deserves illustration at our hands. Urine, containing milk or casein, whether naturally or by artificial introduction, (a trick which, in these days of extraordinary attention to urinary pathology, it is reasonable to expect may soon become a favourite resort of *malingerers**) will coagulate by heat, and precipitate with nitric acid; but, unlike albuminous urine, will also coagulate on the addition of acetic acid. Again, when albuminous urine is alkaline, no matter how it has become so, whether by long standing or otherwise (hence the importance of making our analysis as soon as possible after emission), it does not ordinarily lose its transparence under the action of heat, unless the quantity of the foreign principle present be very considerable, and even in this case simply assumes a milky tint. The addition of a certain quantity of nitric acid will cause instantaneous coagulation; but, according to M. Rayer, it is a mistake to suppose that the presence of alkalies will always cease to influence the coagulation of the albumen by heat the moment the fluid containing them is *neutralized* with an acid. He declares that he has ascertained that nitric acid, in the proportion of a drop to a drachm, will not insure turbidity under ebullition; but that, on the other hand, precipitation takes place in alkalescent albuminous urine with or without the aid of heat, if the quantity of acid be increased to "several drops." Curious to discover the cause of the non-coagulation under these circumstances, MM. Rayer and Guibourt made some experiments on white of eggs dissolved in water. Their researches have not been successful in this point of view, but have so far established the conditions under which it occurs, as to show that nitric acid in small quantities, (*i.e.* $\frac{1}{72}$ to $\frac{1}{100}$ of the tested fluid) acetic in large, and phosphoric acid in small or large proportion, deprive albumen of the property of being coagulable by caloric, but not of being precipitable by nitric acid. It follows, according to M. Rayer, as a direct consequence of these experiments, that, as specimens of urine containing at once albumen and a little phosphoric acid may be met with, nitric acid is a more certain and generally applicable test for that principle than heat. Dr. Christison's experience does not quite accord with that of M. Rayer on this point, for he has "found that sometimes even nitric acid added in excess did not separate albumen which had been present in large quantity." The experiments of the French observers were not conducted on perfectly correct principles; Dr. Wells long since showed that the effects of reagents are not the same on albumen contained in water and in urine.

It must also be remembered that, if alkaline urine be rendered turbid by heat, the loss of transparence is usually due to the precipitation of phosphates, as is proved by its complete restoration on the addition of nitric acid. For this fact we are, we believe, indebted to Mr. Rees.

If the urine be muddy, from the deposition of lithic acid and the lithate of ammonia, heat will, according to Dr. Christison, remove the turbidity by dissolving those compounds; we doubt this as respects the first of them. Mucus, if present, will not disappear under the action of heat, and, as it causes muddiness, should be removed by filtration before the test is employed.

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* It has already been had recourse to by at least one of M. Rayer's patients.

On the other hand, precipitation by nitric acid alone will not prove the matter thrown down to consist of albumen; such precipitate may be composed of lithic acid or lithate of ammonia. Here has, doubtless, been a source of very frequent error, and, according to M. Rayer, the additional one has more than once been committed, in consequence of the precipitate of lithate of ammonia being soluble in an excess of acid, of attributing that character to albuminous coagula. All this we are somewhat at a loss to reconcile with the declared superiority of nitric acid as a test; but, however this may be, M. Solon has made some experiments which show that M. Rayer's denial of the possible redissolution of albumen in an excess of precipitant requires qualification. He found that the coagulum, obtained from an artificial mixture of two drops of serum and one ounce of normal urine, increased in quantity, until fifteen or twenty drops of nitric acid had been added to it, but disappeared completely when the dose of reagent had amounted to thirty drops. But this redissolution, even where the proportion of albumen is very small, requires, at least, twenty-four hours for its accomplishment; hence, in all probability, the difference of opinion of the two observers. We have repeated M. Solon's experiment, and vouch for the correctness of the result announced: the same effect takes place in the coagulable urine of Bright's disease.*

The matter thrown down by nitric acid may at once consist of the proximate principle in question, uric acid and urate of ammonia: microscopic inspection will, in such cases, prevent error, by disclosing the lamellar, corrugated, and peculiar appearance of albumen, crystals of lithic acid, and an amorphous powder, convertible into similar crystals by nitric acid (lithate of ammonia). The proportions of the three ingredients may be ascertained by acetic acid and ebullition. Again, if albuminous urine be red-coloured, from the presence of hæmatosine and globules of the blood, nitric acid, in a great measure, discolours it by precipitating all the foreign principles together; the microscope will detect the globules, either in the urine or imprisoned in the flakes of albumen.

The different aspects of the coagulum depend, in a great measure, on the quantity of albumen present, and this is exceedingly variable. Barely discernible by the usual tests in some cases, in others it has been known to constitute $\frac{27}{1000}$ by weight of the mass of urine; where the proportion is so low as one part in a thousand, ebullition and evaporation should be prolonged for a considerable time, a precaution that has, we fear, frequently been neglected. If it be particularly desirable to learn the precise quantity of albumen present, this may be effectually done by taking the coagulum, obtained by heat, washing it in alcohol, drying and weighing it, and then subtracting the amount from the total weight of the urine employed. Such an accurate estimate as this, however, is not absolutely called for in practice; a simple statement of the quantity of coagulum formed, may be accepted as a satisfactory substitute, and we so perfectly agree with Dr. Christison, as to the scientific and practical benefits which must follow, were practitioners "to employ some common nomenclature for the different degrees of coagulability," that we reproduce the scale he has proposed, in the hope of its being generally adopted, until a better be brought forward.

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* We shall employ this phrase throughout the present article to designate the morbid state of the kidneys, made known to the profession by Dr. Bright, because it involves no erroneous or disputable position, and because we do not share Dr. Christison's polite scruples (Preface, p. xiii.) as to the propriety of its adoption. *Granular degeneration of the kidneys* is so utterly incorrect a term, that we cannot understand the latter gentleman's employment of it, more especially, as his doing so tends to keep alive the error into which he presumes, with what justness we shall presently see, Professor Forget had fallen, that of supposing granular deposition an essential part of the renal lesion. M. Solon's neologism, ALBUMINURIA, is inadmissible as a title for the disease, because, literally interpreted, it is applicable to a symptom only, and this one which occurs in various conditions; but the laxity of that gentleman's use of the word is really surprising; it is successively made to mean *dropsy caused by disease of the kidneys* (Title page, etc.); *dropsy with albuminous urine, caused by disease of the kidneys* (passim); *dropsy with albuminous urine, without renal lesion* (p. 109, etc.); and simply *albuminous urine* (passim). In the latter, its true acceptation, we shall ourselves employ it. ALBUMINOUS NEPHRITIS, the name proposed by M. Rayer, may be founded on correct views of the nature of the disease, but we are unwilling to avail ourselves of it, because we are not, at present, entitled to assume, as certain, that an inflammatory condition is invariably the starting points of the disease, though we admit the extreme probability of the fact; besides albuminous urine occurs in different varieties of renal inflammation.

"1. *Gelatinous by heat.* 2. *Very strongly coagulable*, where a precipitate distinctly separates by heat, and yet occupies, in twenty-four hours, the whole or nearly the whole, fluid. 3. *Strongly coagulable*, where the precipitate, in twenty-four hours, occupies half the volume of the fluid. 4. *Moderately coagulable*, where it occupies a fourth of the fluid. 5, *Slightly coagulable*, where it occupies an eighth of the fluid. 6. *Feebly coagulable*, where it occupies less than an eighth of the fluid. 7. *Hazy by heat*, where the urine becomes cloudy, but does not form visible flakes a few seconds after being boiled." (p. 44.)

It seems unnecessary to dwell at any length upon the numerous other reagents proposed for the detection of this principle; as they are all confessedly inferior in accuracy, and not superior in facility of employment to those described, it will be enough to enumerate them, and refer the curious to the original volumes for further detail. They are tannin, creosote, alcohol, ferrocyanate of potass and acetic acid, bichloride of mercury, and alum. A character of albuminous urine, which may sometimes be usefully consulted, is its frothing considerably more than the healthy fluid, when blown into or even shaken; the bubbles produced remain unusually long without bursting.

Albuminous urines differ from each other in a variety of respects. If acid, when voided, and containing but little fat and mucus, they may be perfectly transparent: the fluid may, in other instances, (as is frequently the case, for example, in the early stage of Bright's disease,) be of a deep red tint, from the presence of the colouring matter of the blood, or assume a straw-coloured or pale greenish-yellow tinge, like non-clarified whey, as in the more advanced periods of the same affection. Again, the quantity of fluid discharged from the bladder is very variable: in Bright's disease alone it ranges between a quantity superior to the normal standard of excretion and two or three ounces. Dr. Wells states, but (as he adds, with most commendable respect for accuracy,) "on the authority of patients and nurses," that dropsical patients sometimes void six, eight, or ten pints of serous urine daily. But the most important point of difference in these abnormal urines respects their remaining normal or adventitious constituents. The proportion of urea and salts may be increased, natural or diminished. M. Rayer instances purpura as an affection in which the first condition is observed, and the advanced stage of Bright's disease as furnishing an illustration of the last. With respect to the detection of urea in albuminous urine, the process of Mr. M'Gregor,* for the discovery of such portion of it as may be precipitated in the substance of the coagulum, is sufficiently accurate for all practical purposes; but the residual urine must also be carefully analyzed, for, as MM. Rayer and Guibourt have found, the quantity of urea therein contained may be "more than one hundred times greater than that obtained by the process in question from the coagulum of the same specimen of urine."

In the albuminous urine of acute affections there is an abundant precipitation of lithate of ammonia: in chylous urine the albumen is associated with fatty matter: in others, mixed with pus, the colouring materials of the blood, &c. Hence arise numerous varieties in point of specific gravity; M. Rayer has found it so high as 1,032, in the commencing stage of Bright's disease; Professor Christison so low as 1,004, or probably even 1,001·5, in the advanced period of the same affection.

Dr. Wells, the only person apparently who has examined this point, generally found albuminous urine to possess the saline and bitter taste of that which is healthy, "though sometimes in a less degree, than even its copiousness would account for."

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* Medical Gazette, May, 1837.

In considering the abnormal character of albuminous impregnation, the question very naturally arises, whether the adventitious principle be vicarious of any of the healthy constituents of the renal secretion. This question has not yet, however, been examined in a general way, with reference to all the various cases in which such impregnation may occur, and seems to have met with attention in regard to Bright's disease alone. The albumen discharged in that disease has been by some regarded as succedaneous of the urea, which is presumed to be proportionally deficient. A careful revision of the few cases yet published, with the necessary details on this point, teaches us to doubt the correctness of this notion. It is no doubt true that urea is deficient in pale-coloured albuminous urine of low specific gravity, and that in the deep-coloured variety of high density it is often present to a considerable amount; but it does not thence follow that it exists in the inverse ratio of the abnormal ingredient, and that the contrary is more likely to be the truth appears on the evidence just alluded to. It may be well to quote the statement of Dr. Christison, in reference to this topic; though published so far back as 1829 it is accurately applicable, as he informs us, to all his subsequent experience.

"In most of the cases I have seen, where the urine was very pale, of very low specific gravity, and deprived of the greater part of its urea, the quantity of albumen was small, never exceeding three parts and a half of dry albumen per thousand, while in the cases where the urea was considerable in quantity, the albumen was also considerable, being in the former so high as ten or eleven parts in the thousand. Besides, the secretion of albumen may be nearly or entirely prevented by proper treatment, without the secretion of urea being restored." (p. 52.)

M. Rayer has shown the advantages derivable from microscopic inspection of the urine under consideration; such examination is indispensably necessary for the recognition of the globules of pus, mucus, or blood, and of the particles of lithic acid and lithate of ammonia, which are frequently thrown down in union with the coagulum.

Albumen has not been admitted by chemists generally to a place among the normal constituents of the urine; and since attention has been particularly directed to this subject, no facts seem to have been elicited proving error in their views. It is certainly true that this failure in its detection may depend not on the total absence of the principle, but either on its minute proportion, or on its assumption of properties distinct from those it possesses when mixed with other fluids, in other words, on the imperfection of the existing methods of analysis: When Liebig, Dumas, and Christison admit that organic chemistry is in its infancy, it is wisdom to doubt. Cautious assertion is here the more requisite, as we find Henry, at least, enumerating this principle as one of the twenty-one constituents of healthy urine; Chevallier, too, is of opinion, as we are informed by M. Piorry,* that it invariably exists therein in very minute proportion. Dr. Osborne, besides, affirms, but this is mere affirmation, that some individuals constantly secrete urine, coagulable by long-continued ebullition, and fancies the peculiarity caused by a habit of drinking sparingly, whereby a concentrated urine is produced.†

In practice, however, we are fully warranted, on the evidence of repeated examinations, made with a view to the settlement of this point, in asserting that the liquid, normally elaborated by the kidneys, contains no albumen. And, on the other hand, it is indubitable that the fluid discharged from the bladder is found, in a considerable variety of local or general derangements of the system, to be impregnated either temporarily or more or less persistently, either slightly or abundantly, with that proximate principle. It is, perhaps, impossible to establish any classification of these derangements which shall embrace, under the same head, all those resembling each other in most essential particulars, and separate such as are marked by special characters; but we venture to propose the following, provisionally, as the least objectionable in the existing state of our acquaintance with the subject. A most important distinction between albuminous urines, practically considered, and one which of course exists in nature, is their being thus impregnated during the process of secretion, (which might depend either on a morbid state of the blood, or on a defective exercise of its secretory function on the part of the kidney,) or simply by subsequent admixture; but as it seems hardly possible to decide, in many cases, to which of these categories albuminous urine belongs, we have not adopted it as the basis of our classification. Our fourth class is a full one; some of our readers may probably contend that it should be still fuller.

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* Traite de Diagnostic, etc. i. 36.

† On Dropsies, p. 8. 2d ed.

ALBUMINURIA MAY BE CAUSED BY

A. *An abnormal condition of the blood, dependent on—*
    Scurvy,
    Purpura,
    Hemorrhagic eruptive fevers,
    Absorption of pus?
    ———— albuminous or dropsical effusions?

B. *Lesions of genito-urinary apparatus.*
  a, Functional—
    Essential hæmaturia,
    Diabetes,
    Secretory excitement of urinary organs and passages, produced by
        Articles of food.
        Medicinal agents.
    Active renal hyperæmia.
  b, Organic—
1. Which cause the foreign admixture during the act of secretion.
    Acute and chronic simple nephritis,
    Pyelitis,
    Bright's disease.
2. Which cause impregnation subsequently to the act of secretion.
  Blood, thrown out in cases of
        Contusions, wounds,
        Calculous pyelitis,
        Cancer of kidney,
        Fungous tumours,
        Acute cystitis.
    Tubercle,
    Encephaloid,
    Strumous matter,
    Pus ... *e.g.* in cases of prostatic abscess,
    Muco-pus, in catarrhal inflammation of mucous membrane of urinary passages, especially of the bladder.

C. *Accidental admixture of healthy genito-urinary albuminous products—*
    Semen,
    Prostatic secretion,
    Catamenial fluid.

D. *Doubtful cause—*
    Acute febrile affections,
    Hysteria?
    Scarlatina,
        Primary fever,
        Succeeding anasarca,
    Gout?
    Chronic diseases independent of renal lesion,
    Chylous urine.

We proceed to make a few remarks upon the majority of these conditions, in so far as they may be productive of albuminuria. We beg to premise that we do not (except where the contrary is expressly stated) vouch for the authenticity or correct observation of the facts on which their claim to be so ranked rests; yet it is just to add that the zealous candour with which the subject has been investigated by the majority of observers leaves but little room for well-grounded scepticism. Further, we desire it to be understood, that we designedly avoid, for the present, any discussion respecting the degree of faith to be attached to an albuminous condition of the urine as diagnostic of Bright's disease. When treating of that affection we shall carefully examine the points, wherein the albuminuria symptomatic of its existence differs, as it is maintained, from that occurring under other local or general conditions of the economy.

A. That certain morbid states of the blood might lead to albuminous impregnation of the urine seems admissible, *à priori;* and experience has established the possibility of their having such influence. M. Rayer states that he has found that the albumen and globules of the blood pass occasionally into the urine in cases of scurvy, purpura, and hemorrhagic fevers, while the fibrin diminishes in the vessels, and the fluid portion becomes infiltrated into the cellular tissue, or exhaled on the surface of the mucous membranes. We expect in this author's next volume the full and explicit information a fact of such import calls for. The statement is not a novel one, however, for Dr. Blackall, in his work on Dropsies, has actually related cases of scorbutus and petechiæ, in which the urine was coagulable; but as the condition of the kidneys was not made a subject of inquiry, his observations, as well as many of the same stamp by other writers, must, at the present day, be acknowledged to be imperfect.

Our notes of interrogation show that we regard as exceedingly doubtful the possible admixture of albumen with the urine as a consequence of the absorption of pus or albuminous secretions. However, the notion that purulent depositions may be carried off through the kidneys has been held by a variety of surgeons, among the rest by Ambrose Paré, Desault, &c.; and recently M. Solon (p. 404) has availed himself of the doctrine, as one respecting the soundness of which no very serious doubts are entertained. And with respect to the passage of albuminous secretions, formed elsewhere, into the urine, we find Cotunnius,* in 1764, endeavouring to explain thereby the presence of albumen in the urine of a dropsical patient, whose anasarca rapidly diminished under the use of diuretics. But our incredulity is justified by the testimony of M. Rayer, who has for the last seven years in vain sought for pus in the urine of individuals, in whom the absorption of purulent depositions of various kinds was effected under his own immediate observation. It may not be correct, however, to deny absolutely the possibility of the excretion of pus under these circumstances, for in two cases of metastatic abscess of the lungs, liver, and kidneys, the tubuli and mamillæ of the latter organs were found gorged with a puriform fluid: these facts would be conclusive, were it not possible that the pus was produced by direct inflammation of the renal tissues. The doctrine of purulent absorption is unfortunately in every respect unsettled.

Some remarkable cases observed in India have been recently related by Dr. J. Mouat, (*Calcutta Quarterly Med. Journal*, July, 1837—see *Br. and For. Med. Rev.*, vol. vi., p. 251.) as demonstrating that the excretion of purulent deposits from the liver may be accomplished through the kidneys, intestines, and lungs, independently of any direct communication between the hepatic abscess and those organs. We have attentively perused these cases, but without being convinced of the reality of the fact they are adduced to prove. Those in which examination after death took place, are alone, as is manifest, entitled to serious consideration; and here, admitting the urinary deposit to have been truly purulent, as it probably was, though the fact is far from proved, the post-mortem details are materially deficient; the condition of the kidneys, and especially of the urinary passages is most imperfectly described, and the author appears to have mainly trusted for his particulars to the reports of others. His opinions curiously exemplify the vacillation of medical doctrines: by the multitude all manner of mischief is ascribed to the passage of a drop, aye, even of a drop of pus in substance into the circulation, and patients pronounced to be all but lost, in whom the least symptom of such an occurrence is discoverable; on the contrary, Dr. J. Mouat attributes numerous recoveries to the passage of that fluid through the blood and kidneys into the urine, and the preservation of one man's life for eleven months, to his constantly relieving his liver of quantities of pus by this most extraordinary route. Bengal practice will no doubt supply Dr. Mouat with the opportunity of substantiating his assertions, if they be really correct, in such manner as to place them beyond the reach of critical cavils.

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* De Ischiade Nervosa Comment. Viennæ, 1770, p. 30.

The fact noted by Cotunnius proves nothing, for the absence of albumen from the urine was not ascertained before the absorption of the anasarcous fluid: in similar cases, where this precaution was taken by M. Rayer, none of that principle was ever detected in urine, voided concomitantly with the disappearance of dropsical effusion.

B. *a.* In our second class we have placed essential hæmaturia, a disorder which of course causes the excretion of albumen along with or without the other principles of the blood. The presence of the coagulable ingredient in diabetic urine was first ascertained by Cotunnius (Op. cit. p. 31); no doubt of its frequent occurrence therein, though its amount and degree of persistence are by no means known, is expressed; nor is any hint, respecting its dependence on peculiar disease of the kidneys, let fall even by the most zealous followers of Dr. Bright.* According to Thenard, Dupuytren, and Dr. Graves, its appearance is an indication of approaching recovery. M. Rayer has, on the contrary, satisfied himself that when the urine becomes thus impregnated, the immediate occurrence of dropsy is to be apprehended.

It is a well known fact, that the urine of healthy individuals may become albuminous for a short while, for instance, twenty-four hours after direct or indirect excitement of the urinary passages. We are not quite sure of being right in ascribing the action of certain articles of food and medicinal agents to such intermediate irritation of the kidneys; it is perhaps equally tenable that an altered status of the blood is, in these cases, the direct cause of the excretion of albumen with the urine. Further observations are necessary to allow of a decisive opinion on this point; meanwhile let us state the facts. Dr. Christison "has occasionally known a temporary albuminous impregnation, produced in healthy individuals by eating freely cheese, pastry, and such other indigestible articles as are known to have in general the effect of increasing the usual solid ingredients of the urine, and occasioning a large deposit of lithic acid and lithate of ammonia." (p. 36.) M. Solon contends that where such consequences follow, from the cause stated, individual predisposition must be admitted in order to account for them;—this is very possibly the truth.

Again, Dr. Christison has repeatedly seen the same condition of the urine, induced for a time (he does not specify what time) by a cantharides blister, when it excited symptoms of renal irritation.† In the only original case related by M. Rayer, as exemplifying the production of nephritis by the action of a blister, no albuminuria existed.

Dr. Mateer‡ has given us the history of a case of dropsy with incoagulable urine, wherein that fluid became distinctly coagulable during the use of infusion of gentian and carbonate of ammonia, the coagulability increasing on the addition of minute quantities of tinctura lyttæ to the medicine. The curative properties of these remedies seemed to be closely connected with the production of albuminuria. As this writer reminds us, Cullen had remarked that blisters "necessarily cause a great quantity of serum to be carried off by the kidneys;" and he, himself, further imagines that all stimulant diuretics cause an albuminous state of the urine, while they carry off dropsical deposits. We find no facts detailed confirmative of this hypothesis, which originated, as we have shown, with Cotugno, and has been proved fallacious by M. Rayer.

We find Dr. Blackall, again, recording his suspicion that the excessive use of another class of medicines, the alkalies and their salts, "disposes the serum of the blood to pass off by the kidneys."§ There is some probability that such is really the case. It appears, indeed, to be generally recognised, not as the result of M. Magendie's speculations, but as that of the experience of such men as Huxham, Dr. Copland, &c., that those medicines, when used in excess, materially attenuate the blood in the end; now, if so, the condition of that fluid is artificially rendered the same as in scorbutic subjects, in whom the occurrence of albuminuria seems unquestionable. All this, however, like almost every other point connected with that phenomenon, requires deliberate investigation.

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* See, however, Cyclopædia of Practical Medicine, vol. i., p. 543.

† Cruikshank states (Rollo on Diabetes, 2d ed. p. 448,) that in strangury from cantharides, the urine assumes the appearance of a mass of hydatids.

‡ Edinb. Med. and Surg. Journ., Jan. 1837. p. 79.

§ On Dropsies, p. 81.

The testimony of writers respecting the action of mercury in this way is contradictory. The evidence of Dr. Wells, on the affirmative side of the question, must be allowed to carry considerable weight with it: this enlightened observer examined the urine of six syphilitic patients before they began to use mercury, and found that it contained no serum in five, and not more in the sixth, than "the smallest quantity that can be detected by heat or nitrous acid." After they had been in a state of salivation upwards of a fortnight, he reëxamined their urine, and discovered that that which originally contained a little, now contained more; that in three other cases the foreign principle was manifestly present; while the remaining two individuals were completely free from albuminuria. Dr. Christison, too, has met with several facts "tending to prove the connexion of such a state with mercurial erythism;" a vague statement of this sort, however, is evidently valueless. On the other hand, M. Solon was unable to detect albuminous impregnation in subjects labouring under ptyalism, consequent on mercurial frictions, employed in a variety of diseases; and M. Rayer is of opinion that the urine does not become thus affected during salivation, unless scurvy, purpura, or an intercurrent affection of the urinary apparatus coexist therewith.

It appears from all this that the influence of mercury is far from being firmly established.

(To be concluded.)

PATHOLOGY AND THERAPEUTICS.

CASE OF APOPLEXIA CUTANEA.

BY DR. OTTO, OF COPENHAGEN.

I HAVE seen and treated a case of this disease, which. I must confess, I should not have known, unless I had read the observations and remarks on the subject by Dr. Léveillé, in the *Revue Médicale*. I was one morning early called to a carrier, who, the evening before, had gone to bed half drunk, and on awaking in the morning, found a great part of his body—the breast, the back, and the upper extremities, covered by widely-spread, dark-blue ecchymoses, not, however, elevated above the level of the skin. He and his wife suspected that he had had during the night an epileptic attack, and had during it so beaten himself as to cause the blue spots; but as such spots do not usually occur so soon after blows and falls, and as the usual yellow colour on the places which have suffered long from blows was nowhere to be seen, and especially as the patient had never been affected with epilepsy before, I could not agree in the opinion. Although he was so far in his senses as to answer in an ordinary way my questions, and to express his fear of the blue spots, still he was sometimes quite stupid, and suffered from *tremor artium*, which, however, was not suprising to me, as I knew him to be a confirmed toper. His face was not red, his eyes gave no indication of congestion towards the head, and he affirmed that he had neither headache or vertigo. There was no paralysis or any other symptom indicative of apoplexy. I had therefore every reason to consider the disease as a true *apoplexia cutanea*, of the kind called by Léveillé *apoplexia cutanea ecchymatica*, to distinguish it from *apoplexia cutanea exanthematica*, which is characterized by large irregular spots elevated above the surface of the skin; in the last-mentioned form of the disease, the blood in its way to the skin is still in the arterial capillaries; in the first-mentioned form, as in the present case, the blood is effused into the subcutaneous cellular tissue. The pulse was full and quick, the tongue clean, the skin warm, and the bowels open.

I took blood from the patient, ordered rest, a regulated diet, sulphate of magnesia dissolved in water, and to bathe the ecchymosis with a saturnine lotion. The same day the man ceased to speak incoherently. No other symptom occurred; the spots gradually became paler, but did not completely disappear until three weeks. He has had no relapse.—*Brit. and For. Med. Rev.*, from *Casper's Wochenscrift. May*, 1839.

OBSERVATIONS ON THE PLAGUE.

BY DR. A. BULARD.

[This is a paper of some value on the morbid anatomy of the plague, communicated to the Editor by Dr. Bulard, while on a recent visit to Berlin. As this gentleman spent six years in Turkey and Egypt in investigations respecting that disease, his observations are certainly entitled to consideration. We can only afford room for some of the most important particulars, which we the less regret, as we are promised a four-volume work on the subject, by and by. The dissections were made at various intervals, from half an hour to twenty hours after death, and in every instance with uncovered hands, and without using any disinfecting materials.]

Skin. There were always more or less livid patches on the anterior surface of the neck and chest in whites, as well as ordinarily on the scrotum and labia pudendi; it is presumable, therefore, that the same existed in people of colour. The petechiæ, observed during life, persisted after death; and the buboes and carbuncles always collapsed.—*Muscular system.* Slight cadaveric rigidity, diminished cohesion of muscular tissue, which is soft, somewhat moist, and light coloured.—*Nervous system.* Sinuses of dura mater and meningeal vessels generally very full of blood; membranes themselves normal; medullary substance of brain presents numerous minute accumulations of blood on section; the cortical substance has generally a polished appearance; consistence of the organ diminished. Sympathetic nerve neither red nor softened; its ganglia everywhere healthy, petechiæ in some cases in the lower end of its thoracic portion.—*Sympathetic system.* Here existed the only really constant, the most extensive, the best-marked, and at the same time least-known morbid changes. The glands varied in size from that of a pistachio-nut to that of a goose-egg, and upwards; in colour from that of the cortical substance of the brain to the deepest livid; in consistence, from that of scirrhus to that of putrid detritus. Considerable effusion of blood is found in the abdomen, on the same side as the inguinal buboes; and knotty tumours extending in the course of the lymphatic vessels up to the diaphragm. The substance of the glands presents the evidence of every stage of morbid change from sub-inflammation to suppuration; the lymphatic vessels appear never to participate in the diseased changes. Effusion of blood takes place in the axilla also, as well as into the integuments of the chest, when the disease is centralized in the glands of those regions. The lymphatic system is not diseased in all its parts at one and the same time; buboes never coexist in both axillæ, both groins, both cervical and popliteal regions, nor are the homonymous glands of both sides ever simultaneously attacked.—*Respiratory organs.* Lungs crepitating; bronchial mucous membrane healthy.—*Heart, &c.* Pericardium frequently contains red serosity; right side of the heart completely filled with clotted black blood, often with fibrinous concretions; similar blood in the veins, which often presents something like drops of oil on its surface; arteries generally empty and healthy.—*Organs of digestion.* Softening of the membranes was an ordinary appearance; the stomach frequently loaded with blackish fluid; its external membrane ordinarily palish-yellow, thickened, and softened; internal surface marked with petechiæ, and in advanced cases ulcerated, a state never observed in the small intestine; the vermiform appendix of twice or thrice the natural size; Brunner's and Peyer's glands normal.—*Secretory organs.* Liver loaded with black blood; gall-bladder distended and spotted with petechiæ; its membranes thickened in twelve cases; bile in nothing remarkable. Spleen enlarged to treble or quadruple its normal size, and filled with blood like wine-lees. In four or five cases only was this organ healthy; in six instances it contained carbuncles.

Pancreas normal; kidneys usually twice or thrice their natural size, loaded with dark-coloured blood; with an appearance of real hemorrhage in the pelvis.

These lesions are divided by Dr. Bulard into two classes, the primitive and consecutive. The former are those affecting the lymphatic system, and originating in a morbid state of the *lymph* itself. Among the secondary alterations of most importance are those of the *blood*, and they are induced, according to this observer, through the direct communications between the lymphatic vessels and veins; the condition of the blood accounts in its turn for that of the *various organs.* That fluid never presented any buff; its cohesion was found greater than natural during venesection; it emitted a peculiar odour in some cases, and occasionally remained perfectly fluid. It was analyzed thrice, and found to contain in 100 parts the following ingredients:

Clot	Water	35·576
	Fibrin	00·624
	Colouring matter, with some fibrin, albumen, and fatty matters	3·800
Serum	Water	54·420
	Albumen and colouring matter	4·704
	Extraction	00·252
	Chloride of potassium and sodium	00·408
	Carbonate of soda and fatty matters	00·216
	Distinct traces of sulphurous acid.	

The black-coloured mass found in the stomach was also analyzed, and 100 parts found to contain:

Water	95·75
Oxide of iron	0·25
Resin	1·75
Mucus and fat	0·25
Albumen with colouring matter	2·00

Ibid., from *Wochenschrift für die gesammte Heilkunde*, No. 42. *Oct.* 1838.

ON FATTY DISEASE OF THE LIVER (PIMELOSIS HEPATICA).

BY DR. ALBERS, OF BONN.

The fatty disease of the liver has of late been sometimes regarded as hypertrophy of that organ, sometimes as cirrhosis, and sometimes as the result of chronic inflammation. But it is a peculiar affection, and perfectly distinct from all these: it differs from hypertrophy in the alteration which the tissue undergoes; from cirrhosis, by the lobules being unaltered or but slightly atrophied: and from chronic inflammation, by the absence of all symptoms of such an affection even when the disease is completely developed.

The liver when affected with this disease is always large, and surpasses the normal size; the increase commonly affects the whole organ, but especially its basis and the right side; and the more advanced the disease, the greater is the enlargement. The colour of the liver is externally reddish-yellow, or marbled with shades of yellow; internally, it is yellow shaded with red in the early, and golden-yellow in the later periods of the disease. The substance is firm and compact like that of the liver of a phthisical patient, and it retains its firmness for a day or two after its removal from the body. Its weight is increased. Its vessels are all permeable and may be traced to the minute parts; the branches of the vena portæ are all very large; the blood which they contain is black and greasy. The hepatic artery and ducts appear healthy; the bile is very dark and fluid.

If a portion of a liver, thus golden-coloured, be examined with the microscope, it appears like a pale-white, spongy substance, containing separate cells of a bright colour, with a delicate fluid, and here and there some dark brown points the acini of the liver, which are smaller than in their normal state. Thus, while the tissue between the lobules is abundant and hypertrophied, the lobules themselves are atrophied; and, in all stages of the disease, the increase of the one is proportioned to the decrease of the other. It is in this hypertrophied interlobular cellular tissue of the liver, that the deposition of fat chiefly takes place.

In general, the fatty disease of the liver appears in that organ alone, and all the other parts of the body are atrophied; enlargement and accumulation of fat in the liver being generally connected with an extreme condition of emaciation. In the late French works on pathological anatomy, it is said that the fatty condition of the liver is very common in tuberculous affections of the lungs. But the liver naturally contains a remarkable quantity of fat, which is sometimes increased in many diseases, as well as in phthisis, without constituting what can fairly be called fatty disease of the liver; for the organ retains its brownish colour, the lobules remain normal, and the cellular tissue is only a little increased in quantity. The surface of a section of such a liver is not yellow, but a mixture of brownish-yellow and gray; and much of the enlargement which it presents, depends on the great accumulation of blood in the vessels.

With respect to the symptoms of this disease, it commences with all the manifest signs of disordered digestion, pain, and weight in the epigastrium and right hypochondrium, occasional vomiting, and entire loss of appetite. At a later period, there are prominence and tension of the hypochondrium, the pain being increased by pressure, but often relieved by the abstraction of blood. The skin becomes pale-yellow, but has the hue rather of that which is seen in organic disease of the stomach, than of common jaundice. As the disease advances, the colour of the skin increases in intensity, and the greatest emaciation takes place; but if the disease be not complicated, dropsy never occurs, though the emaciation is extreme. It continues for from four to fifteen months, till at the last, difficulty of breathing and great weakness supervene, and the patient dies gradually exhausted.

The most important diagnostic is the great emaciation without dropsy; for in hypertrophy, cirrhosis, and all other chronic diseases of the liver, the latter always occurs, both in the form of ascites and of anasarca. The pain relieved by bleeding is also an important sign, being more rarely and less distinctly observed in hypertrophy or cirrhosis.

As yet no remedy is known for this affection; and the immediate cause of the accumulation of fat is equally uncertain. It affects persons of upwards of thirty-five years of age, and both sexes equally.—*Ibid.*, from *Rust's Magazin für die gesammte Heilkunde.* 1839.

ON THE MEDICAL USE OF ALUM, IN DISEASES OF THE HEART.

BY DR. SCHLESIER.

In this short paper, Dr. Schlesier calls attention to the great benefit derived from the internal use of alum in dyspepsia, and also and especially in dilatation of the heart. He quotes the case of a girl, aged 10, whose heart was so much dilated, that her case had been considered hopeless; but whom he succeeded in curing by the prolonged exhibition of alum. The stroke of the heart was perceptible over all the left side to the fourth false rib, and its motion appeared to the eye in the intercostal spaces like a rolling wave. The sternum and ribs of the left side were drawn upwards; the respiration was short and hurried, and accompanied by a short, dry cough, and considerable dyspnœa; the pulse was about 100, soft and small, and the child was emaciated and pale. In this state alum was ordered, in combination with rhatany and digitalis, and its effects were truly wonderful. The apex of the heart became weekly more elevated, and the stroke of the heart more limited in extent, whilst the general condition of the patient improved so much that in four weeks she could be removed home. The treatment was continued for a considerable time with great benefit; but still a slight degree of dilatation remained, and the heart was easily affected by exercise and mental emotions.

[The auscultatory diagnosis of the disease ought to have been given, as also the dose of the remedy.]—*Ibid.*, from *Medicinische Zeitung*, No. xlvii. 1838.

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MIDWIFERY.

REPORT OF THE OBSTETRIC DEPARTMENT OF THE PHILADELPHIA DISPENSARY, FOR THE YEAR 1839.

JOSEPH WARRINGTON, M.D., ACCOUCHEUR.

SEVENTY-SEVEN women have been under the care of the Accoucheur in this Institution during the year.

Seventy-nine children have been delivered, viz. :—fifty-three boys and twenty six girls ; one woman having twin boys and one twin girls.

In forty-seven cases in which the presentations and positions of the fœtuses were carefully observed, they were as follows :—

Twenty-eight in the first position of vertex; eleven in second do.; four in fourth do.;—three in first position of breech ; one in fourth position of knees.

The average duration of labour in forty-five cases, was eleven hours twenty-six minutes—the extremes being thirty minutes and thirty-one hours.

The average time required for the spontaneous expulsion of the placenta in fifty-one cases was nineteen minutes, the extremes being five, and sixty minutes. In six other cases, some manual aid was necessary to the delivery of this mass, after a retention, in one, for half an hour, in another for an hour, in two for an hour and a half, and in two others for two hours, and four hours, respectively.

In each of these cases the delay in delivery depended upon either atony of the uterus, or the manner in which the placenta presented at its orifice, and *not* to *adhesion* or *hour-glass contraction.* The insinuation of the finger in four of the cases, and of the hand into the vagina and *os uteri* in two, was found sufficient for the completion of delivery.

In one case the fœtus presented originally in the fourth, but became spontaneously changed to the second position of the vertex. In one case, flexion of the head upon the thorax did not take place until the hand was introduced to assist the change.

The forceps were applied in four cases, viz. : in one, which one year and fifteen days previously had been delivered by the crotchet, in consequence of deficient amplitude of the pelvis (child now delivered alive) ; one in consequence of contraction of the antero-posterior diameter, with the additional obstacle of the jutting in of the left acetabulum (child living—case given in detail by Mr. W. H. Muller, one of the obstetric class) ; in one in consequence of an irreducible prolapsus of the cord (child not quite dead when delivered, but could not be resuscitated) ; and in a fourth case, in consequence of the defect of uterine action and a small but well-formed pelvis—ergot having failed to effect delivery (child living). Ergot was used in this one case only, during the whole year.

All the women recovered, except one who died of phthisis eight days after delivery, which latter occurred three weeks before term—the patient not being expected to live till that time : delivery was effected by the uterine efforts merely, and almost unconsciously to the emaciated and enfeebled mother.

Two patients had metritis, coming on after natural and easy labours ; and one, (the case of which will be given with some detail,) after considerable manipulation and the use of the forceps. These were cured in a few days, by blood-letting, general and local, moderate purging, fomentations to abdomen, mucilaginous injections into vagina.

There was one case of severe uterine and mammary engorgement, occurring on the third day after a natural labour; it was promptly cured by two doses of calomel and castor oil, with the frequent use of fomentations to the mammæ and abdomen.

One patient suffered much from ovaritis, during the latter part of gestation. She was greatly relieved by cupping before delivery, and a free leeching subsequently.

In one case, in which there was slight hemorrhage at the time of delivery, the placenta was found to be studded with numerous calcareous deposites upon its uterine surface. Several other placentæ were remarked to contain this species of formation, but no peculiar condition of the patient or child was noticed in connection with the circumstance.

Four or five of the children had ophthalmia: all of them recovered except one, which died in convulsions eight days after its birth; the inflammation being intense, and no nurse could be obtained to attend upon the mother and apply the remedies proposed for the relief of the child.

Dr. Warrington holds the appointment of Accoucheur to this ancient and extensive institution, with the view to establish a school of practical midwifery. The cases are distributed amongst those members of his class who attend upon his course of practical instructions in obstetrics, after having attended a full course of anatomy and midwifery in some respectable medical school.

Twenty-five gentlemen have participated in his courses of instruction at the Dispensary, and attended upon the above list of cases during the past year.

The number of patients for 1839 exceeded those of the previous year by twenty-four.

REPORT OF A CASE OF TEDIOUS LABOUR, IN WHICH THE FORCEPS WERE USED WITH SUCCESS.

BY MR. WM. H. MULLER.

MRS. R———a C———s, aged 30, in her eighth pregnancy, was taken with labour-pains about six o'clock in the evening of Wednesday, Oct. 9th, 1839. She having been confided to my charge by Dr. Warrington, I was sent for shortly after 9 P.M. on Wednesday. On reaching her, about ten o'clock, I found the pains pretty severe, and succeeding each other at intervals of from three to five minutes; there appeared also to be an alternation of weak and strong pains. On examination, to ascertain the progress of labour, the lips of the os uteri were found to be large and soft, but as yet there was no perceivable dilatation. A second examination about one hour afterwards discovered the orifice considerably enlarged, the edges of the os uteri being very thin, sharp, and relaxed. Finding that after the lapse of another hour no progress was making, while the pains continued severe and frequent, Dr. Warrington was sent for and arrived about 1 A.M. The uterine contractions at this time were very active. The position which the patient had all along found most convenient, was that upon the knees, while she supported herself by resting the elbows on a chair, and was loud in her entreaties to the attendants to bear down upon her back. The membranes were ruptured by Dr. Warrington soon after his arrival; these were so soft posteriorly as to present a sort of pad, and give an idea of a portion of the placenta. There was, however, no hemorrhage. The vertex was found posteriorly, sometimes presenting to the right, and sometimes to the left sacro-iliac symphysis. The promontory of the sacrum was much greater than usual; a spine of bone was thrown backward from the symphysis pubis to the extent of one-eighth of an inch; a projection of bone appeared also to spring from the linea-ileo pectinea, opposite the left acetabulum, sufficient to interfere with the usual dimensions of the pelvis. The patient complained of the most severe and intolerable pains in the back when uterine contractions occurred, and would press her hands with the utmost force into the lumbar region, insisting, moreover, as above remarked, upon "taking her pains upon her knees," and having two women to press with their whole weight upon her back. Under the most severe contractions, the fœtus was scarcely at all advanced. At 4 A.M., having summoned two other members of his obstetric class, viz., Jno. R. Justice and Edwd. Hartshorne, the former of whom arrived very shortly, Dr. Warrington attempted the introduction of the long forceps (the patient being placed upon her back at the foot of the bed). Both blades could be passed in easily, but it was impossible to bring them to lock, though both were often alternately withdrawn and reintroduced. Thinking it might be possible to introduce and lock the narrow-bladed, short-handled forceps of Professor Davis of London, Dr. Warrington went home, and returned with Davis's narrow and also his broad-bladed forceps. The narrow blades were passed into the pelvis, but owing to the relation of the child's head with the tumour, he was unable to adjust them so as to make them lock. Dr. W. then proposed a consultation with Professor Hodge, at 8½ A.M., requesting me in the meantime to take some repose and refreshment. Mr. Justice left at the same time to meet another engagement. Messrs. Edward Hartshorne and Moore now arrived, and thirty-five drops of laudanum were given to the patient, with the hope of enabling her to take some repose. The contractions continued incessant and severe, and upon a subsequent examination (as Dr. W. has recorded in his notes of the progress of the case during my absence), it occurred to him, that if he could change the position by the *vectis*, so as to place the left temple of the child in the situation now occupied by the right parietal protuberance, he might apply the blades advantageously. Dr. Warrington then introduced the vectis under the right ramus of the pubis, and applied the hollow surface to the side of the child's face, swept it round under the arch, and succeeded in bringing the occiput to the second position. This was done while the patient was upon her left side. As she was firmly fixed and well supported by Messrs. Hartshorne and Moore, Dr. W. passed in the wide-bladed forceps of Davis, locked them readily, and began to act with some effect, when the bolt which is intended to secure the joint made in one of the blades for its more ready introduction in certain cases, gave way, and rendered that blade useless. Dr. W. immediately withdrew the blade, and, adapting it to the opposite blade of the narrow forceps, found that they had the same lock and curve, and determined to slide in the narrow blade, which could be opposed to the broad one still in the pelvis. The attempt succeeded most satisfactorily. Having everything now well adjusted, some vibratory motion was used in the direction of the bi-parietal diameter of the child's head, at the same time traction effort was made to the entire extent of his physical strength, for several seconds; the patient making a most vigorous expulsive effort, the child began to advance slowly—rotation was effected, and in probably five minutes the occiput appeared at the anterior commissure of the vulva. The perineal tumour now became large; it was supported, and the head was extruded. The shoulders were equally retained for several minutes; by strong assistance, however, the whole fœtus was delivered by about eight o'clock. The placenta being delivered by Mr. E. Hartshorne, and the bandage applied by the assistance of Mr. E. J. Moore. The patient was then placed comfortably in bed, with directions that she should be kept entirely quiet. The child, which, contrary to expectation, was living, was washed and dressed. The left side of its forehead gave evidence of the pressure to which it had been exposed, as the cuticle was stripped off to the extent of one or two inches. This was dressed with simple cerate.

Thursday evening, Oct. 10th.—Patient has slept well since this morning; has had considerable thirst; drink, toast-water and oatmeal gruel; complains of feeling very sore about the vulva, and of general weakness; abdomen tender; has slight oppression of the chest; when ordered to cough, complains of pain in pelvic region: patient was seen this afternoon by Dr. Warrington, who drew off a considerable quantity of urine by the catheter; an additional quantity is now again drawn off by the same means; pulse not much disturbed, nor is heat of skin great, but rather cool and moist: no headache; doing very well. Ordered a bread-poultice over pubis, and the cloths to be changed every three hours.

Friday morning.—Slept soundly all night, and was not disturbed to change the poultice.

Friday evening.—Patient has now a slight fever; eighteen ounces of blood taken from her by Mr. E. Hartshorne.

Saturday morning, 9 o'clock.—Had a good night's rest; slight tenderness of abdomen yet; pulse strong, and about ninety-six; skin warm and moist. Ordered a dose of castor oil, to be followed by an injection of salt water if it does not operate.

Saturday evening.—Patient doing very well; pulse 95; skin as above; has not slept much during the day; castor oil caused six dejections; the uterus soft, and in the right side; pain caused by slight pressure in that region; patient now passes her urine freely; vagina was now washed out by a few aqueous injections.

Sunday morning, 13th.—Patient slept well during the night, and feels comfortable; perspired considerably last night; pulse now about 95; skin moist and cool. Had copious lochial discharge since last visit; breasts well filled.

Monday morning.—Still doing well; pulse and skin natural; tenderness of abdomen gone; slept well all day yesterday, and therefore not much last night; appetite good; restricted to a diet of oatmeal gruel and gum water; lochiæ still copious, and not offensive; tongue clean; child also doing well.

Tuesday afternoon.—Still doing well, but still complains of much weakness in the back.

Thursday afternoon.—Mother and child both doing well; wound in the child's scalp suppurating; ordered to continue Goulard's cerate.

Saturday afternoon.—Improving, as usual; the mother was out of bed the greater part of yesterday, and to-day complains of weakness, and is not so well; thirst considerable; has had three stools since to-day week; appetite good; diet of chicken soup; toast and tea; oatmeal gruel; milk abundant, and breasts painfully distended; she is relieved by having them drawn frequently. Complains of very hot feet, for which she was ordered a tepid foot-bath, and to leave them uncovered in bed. Ordered a dose of castor oil. From this time the patient continued to gain strength rapidly, and in a few days stood in no need of further attendance. Child's head healed.

THE "IMMOVABLE APPARATUS," USED IN THE TREATMENT OF FRACTURED EXTREMITIES.

BY ALEX'R F. DUBLIN, M.D., OF BALTIMORE.*

It is rather remarkable, that the plan of treating fractures by the "Immovable Apparatus" should not, till recently, have been introduced into general practice in Europe and America; as it has long been used, with several modifications, both in Asia and the northern part of Africa; and particularly as, at first view, its apparent superiority to the ordinary mode, in the treatment of many cases of fracture recommends it to the favourable consideration of the practitioner. Although the same principle had been applied by some of the European surgeons, in treating fractures of the extremities, yet it remained for M. Suetin, of Brussels, and M. Velpeau, of Paris, to introduce it to the notice of the profession at large. Since its recommendation by these gentlemen, it has been employed in numerous cases; and the testimony in its support has been rapidly augmenting. To add to the evidence already existing of its value, the following two cases have been reported.

Case First.—*Fracture of both bones of the leg—application of the "Appareil Immobile" the second day after the accident—cure without deformity.*—John Patterson, æt. 19 years, apprentice to an iron founder, Lexington street, and of temperate habits, May 13th, 1839, received a fracture of the tibia and fibula at their lower third, by the falling across his leg, from the height of three feet, an iron shaft weighing sixteen hundred weight. Owing to the tumefaction which speedily ensued, his limb was dressed temporarily with the bandage of Scultetus, and placed in the ordinary wooden splints; and evaporating lotions were directed to be used. In twenty-four hours the swelling had so far subsided, that the immovable apparatus was applied in the following mode.

A roller was smoothly applied from the toes to the knee, old fine linen being interposed where there was a probability of excoriation, and in the inequalities on each side of the tendo-Achillis. This bandage was covered with starch, boiled to a thick consistence. A second was applied, from the knee to the toes, which also was coated with starch. Then four pieces of thick pasteboard, (binder's board is preferable,) moistened with water until soft, and covered with starch, extending from below the knee nearly to the sole of the foot, the front piece reaching only to the instep, were applied before, behind, and on each side of the limb; and covered with a third roller extending from the toes to the knee. This in turn was coated with starch, and the whole covered with a fourth roller, which was secured by a pin or two, at the end. The limb was now confined between shingle splints and supported on a third, and with the foot kept properly sustained for two days; at the expiration of which time, the dressings having become perfectly dry and hard, the splints were removed.

The patient had some fever for three or four days, during which time he complained occasionally of slight pulsative pain in the limb, particularly when in a pending position. He remained in bed, perfectly able, after the removal of the splints, to move about and place himself in any position, without assistance. After the fifth day, he walked about the room, with help, and on the eleventh day from the receipt of the injury, he walked abroad, with the aid of crutches and a stirrup to support his foot. In four weeks he could bear his weight, without inconvenience, upon the limb; and in a little less than six weeks the dressings were removed, leaving his leg firm and without the slightest deformity.

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* Maryland Medical and Surgical Journal, No. I.

After the second week of the injury, he was not confined to the house, but exercised freely in the open air, and enjoyed uninterrupted good health.

CASE SECOND.—*Fracture of the tibia—application of the "Immovable Apparatus" immediately after the receipt of the injury; cure without deformity.*—B. F. W., son of a gentleman in Mulberry street, æt. 8 years, received, July 12th, 1839, a transverse fracture of the tibia four inches above the ankle, while lying upon a sand heap, by his companion jumping from a height of six or seven feet upon his leg. He was taken home immediately; and I saw him a half hour after the occurrence of the accident. No tumefaction had taken place. The immovable apparatus was at once applied, in the same manner as described in the preceding case, and the limb was kept confined within the ordinary wooden splints until the dressings were dry, when the splints were removed.

His desire to be in motion was so great, that on the fourth day after the accident, he left his bed and hopped across the chamber. As he complained but little of pain or uneasiness in the limb, and was without febrile excitement, I ordered a pair of crutches for him, and a strap, passing around his neck and under his foot, to elevate it slightly from the floor and give it support. After a trial with his crutches, not being able to use them very adroitly, he threw them aside, together with the strap for supporting his foot; and in less than ten days was limping about the house and yard, treading lightly upon the injured limb. In less than three weeks he ventured to bear his whole weight upon the leg, which he found able to sustain him. From this period, he continued to walk upon the fractured leg without fear. The fourth week, the dressings became somewhat loosened, from the shrinking of his muscles, and I applied an additional bandage firmly over the whole. At the expiration of five weeks, the apparatus was taken off, and I seriously apprehended there would be deformity, produced by his continual use of the limb: but was pleased to find a perfect cure, with the most exact coaptation of the fractured surfaces. He made but little complaint of pain, after the third or fourth day; and, indeed, his mother thought that the principal part of his profession of suffering was feigned, as in the absence of the physician he only complained of the confinement to which he was necessarily subjected, and some uneasiness in the limb from the tightness of the dressings.

The advantages resulting from this mode of treating fractures of the leg especially, are too obvious to all who have employed the various plans, to require any elaborate disquisition. It is scarcely necessary to reiterate the arguments in its favour, which have been employed by its advocates. It may, however, be well to enumerate a few of its advantages, in comparison with the ordinary mode. The patient is able to move his leg about in bed, and assume any position he may choose, without help. He can also rise without difficulty and attend to the demands of nature. His digestive and other functions are not impaired from confinement to the bed for many weeks. He is not dispirited in mind and greatly fatigued in body, from being obliged to preserve a fixed position for a long time. In hospital practice, it promises to be of great utility, by lessening the liability to sloughing of the sacrum from protracted pressure, consequent upon long confinement on the back. It is of infinite value to tradesmen, artisans, and others, in enabling them, a few days after the occurrence of the accident, to superintend their affairs, thereby often saving a great amount of time. The apparatus is simple and easy of application, and may be found in any house.

It would far transcend the intention of this article, and extend it beyond its contemplated length, to discuss all the objections which have been urged against this apparatus. There is one, however, and by far the greatest which has been alleged, that requires a brief notice, before I close. It has been maintained that the early application of the dressing, before a coming tumefaction, will have a strangulating effect and may produce gangrene. Experience has proved, that if the bandage be put on with an uniform compression throughout the whole limb, it opposes tumefaction and does not interrupt the circulation. The arterial blood is prevented from entering the compressed limb, and the venous blood, by the same pressure, is forced out. But granting that, by any possibility, the circulation should become arrested, the toes are exposed, and there are other symptoms, with which every surgeon is familiar, that clearly indicate the most remote tendency to gangrene, when the apparatus should be removed, and such other means employed as may be proper.

It would not be advisable to apply the apparatus immediately, when there was much swelling, but wait until it was dissipated; as the dressings would be left too loose to afford the necessary support to the limb, and because there would be difficulty in "determining upon the exactitude of coaptation" of the fractured surfaces.

Suffice it to say, in conclusion, that hitherto the various objections adduced against it, have not, from experience, been found valid.

October 11*th*, 1839.

THIRD DENTITION.

[Extract of a letter from Dr. Robert C. Randolph, of Clarke county, Va., to the Editor.]

Being on a professional visit at Mr. ——, the horrors of salivation were brought forward as a subject of conversation by the lady of the house, who mentioned a case that had occurred in her own family.

A son, about ten or eleven years of age, was profusely salivated by one dose of calomel; one of the upper incisor teeth fell out very soon: he continued to suffer exceedingly from the local irritation, and his general health was very much impaired; small fragments of the alveolar process coming away occasionally, when at last about one inch in length of that portion of the superior process which held the incisors came away with one tooth, the others having fallen out previously.

This fragment, with the tooth adhering, the lady has still in her possession. Altogether he lost six teeth, and a considerable portion of alveolar bone, all of which, with the exception of the first one that dropped out, have been renewed, thus making a third set; for the lady positively asserts that he had shed his first teeth, and this is most probable from the age of the boy.

Remarks.—The production of new teeth after second dentition has been gone through seldom takes place except there has been a destruction of parts of the jaw by caries, necrosis, &c.: the new teeth are then formed in the newly-made bone. Among other works on this subject we may refer to Gehler, *Progr. de dentitione tertia.* Lip. 1786. Haller, Vol. VIII. p. 22. Med. and Phil. Comment. Vol. III. and VIII. Simmons, in Med. Observat. and Inquir. Vol. III. p. 118.—Editor.

PROCEEDINGS OF THE NATIONAL MEDICAL CONVENTION, FOR THE REVISION OF THE PHARMACOPŒIA OF THE UNITED STATES.

The National Medical Convention, *for the Revision of the Pharmacopœia of the United States, assembled in the City Hall, Washington, on the* 1*st of January*, 1840.

The following delegates represented their respective medical societies and colleges in the convention, viz.:

Theophilus C. Dunn, M.D.,	*Rhode Island Medical Society.*
Lewis Condict, M.D.,	*New Jersey Medical Society.*
Franklin Bache, M.D. Henry Bond, M.D. Joseph Carson, M.D.	*College of Physicians of Philadelphia.*
George B. Wood, M.D.,	*University of Pennsylvania.*
Robley Dunglison, M.D.,	*Jefferson Medical College of Philadelphia.*
William W. Morris, M.D. James Couper, M.D.	*Delaware Medical Society.*
John R. W. Dunbar, M.D. John C. S. Monkur, M.D. Edward Foreman, M.D.	*Washington University, Baltimore.*
Joshua S. Cohen, M.D.,	*Medical and Chirurgical Faculty of Maryland.*
Thomas Sewall, M.D. N. W. Worthington, M.D.	*Medical Society of the District of Columbia.*
Thomas Miller, M.D. Harvey Lindsly, M.D. John M. Thomas, M.D.	*Columbian Medical College.*
John W. Davis, M.D.,	*Vincennes Medical Society of Indiana.*
Wm. Bacon Stevens, M.D.,	*Georgia Medical Society.*

The credentials of the delegates from the White Mountains Medical Society of Vermont, from the Medical Society of New Hampshire, from the Albany Medical College, and from the College of Physicians and Surgeons of Lexington, Kentucky, were presented by Dr. Condict, the President of the Convention of 1830; but the delegates were prevented from attending. After the rising of the Convention, however, Josiah Bartlett, M.D., delegate from the New Hampshire Medical Society, and Samuel G. Baker, M.D., and William A. Aikin, M.D., delegates from the University of Maryland, reached Washington, and, by public notice in the papers, stated their full concurrence in the measures adopted by the Convention.

The Convention elected Lewis Condict, M.D., of New Jersey, President; George B. Wood, M.D., of Philadelphia, Vice President; N. W. Worthington, M.D., of Georgetown, District of Columbia, Secretary; and Henry Lindsly, M.D., of Washington, Assistant Secretary.

With the view of giving the various medical interests of the country their due weight in the deliberations of the Convention, the Surgeon-General of the Army, and the Senior Naval Surgeon at Washington, were invited to participate in the proceedings.

After some other preliminary business, the Convention adopted the following resolution offered by Dr. Bache:—

Resolved, That the delegates from the different medical bodies represented in this Convention be requested to present any written communications with which they may have been charged.

Upon calling over the several delegations, it appeared that no written communications had been forwarded to the Convention except by the College of Physicians of Philadelphia. Dr. Bache presented from this College several documents, which, he stated, had been prepared with great industry and care, with a view to facilitate the revision and emendation of the Pharmacopœia of 1830. This communication elicited discussion; but, with a view to more definite action, Dr. Lindsly proposed the following resolution, which was adopted:—

Resolved, That the communication from the College of Physicians of Philadelphia be referred to a committee, who shall also be instructed to report a plan, by which the revision and publication of the Pharmacopœia may be carried into effect.

It was ordered that the committee consist of five members, to be named by the President; and Drs. Bache, Davis, Stevens, Cohen, and Dunn, were accordingly appointed.

Dr. Wood offered the following proposition, which was adopted:—

Resolved, That a committee be appointed to report a plan for the organization of the next Convention for revising the Pharmacopœia.

It was ordered that the committee consist of three members, to be named by the President; and Drs. Wood, Sewall, and Dunglison, were appointed.

The Committee to whom the documents from the College of Physicians of Philadelphia were referred, and whose duty it was to arrange a plan by which the revision and publication of the Pharmacopœia might be carried into effect, and the following report, which, with the accompanying resolutions, was adopted by the Convention.

"The Committee are of opinion that the labours of revision constituting the communication from the College of Physicians would form a proper basis for the new Pharmacopœia: and that this communication, and all others that shall be received from bodies which have appointed delegates to this Convention, should be referred to a committee of revision and publication, to meet in Philadelphia as soon as practicable. As it is desirable that the committee here proposed should have the assistance of pharmaceutical bodies, it is recommended that authority be given to it to request the coöperation of Colleges of Pharmacy in the United States. A revising committee thus constituted, and clothed with power to fill their own vacancies, to publish the work after the completion of the revision, and to take order on all incidental measures necessary to carry out the object of the Convention, would, in the opinion of this committee, form a body to which the revision and publication of the Pharmacopœia might be safely trusted. To carry out these views, the committee recommend the adoption of the following resolutions by the Convention:—

1st. "The communication from the College of Physicians of Philadelphia, and all other communications which may be received from bodies that have appointed delegates to the Convention, shall be referred to a committee of revision and publication, consisting of seven members, three of whom shall form a quorum.

2d. "The committee, thus constituted, shall meet in Philadelphia, and be convened as soon as possible by its Chairman.

3d. "The committee shall be authorized to request the coöperation of the Colleges of Pharmacy in the United States; to publish the work after the completion of the revision; and to take all other measures which they may deem necessary to carry into effect the object of the Convention.

4th. "The committee shall have power to fill its own vacancies.

5th. "When the committee shall have terminated their labours, they shall prepare a report of their proceedings, and transmit it to the Secretary of this

Convention, to be laid before the next Convention. All which is respectfully submitted."

Franklin Bache,
Jno. W. Davis,
W. Bacon Stevens, } Committee.
Joshua J. Cohen,
Theophilus C. Dunn,

Washington, Jan. 3d, 1840.

The Convention proceeded to choose the members of the Committee of Revision and publication proposed in the above report; and Drs. Wood, Bache, Dunglison, Cohen, Dunn, Stevens, and Sewall, were appointed.

The committee, whose duty it was to arrange a plan for the organization of the next Convention for revising the Pharmacopœia, made a report, which, at the suggestion of Dr. Stevens, was amended so as to make the first Monday in May, 1850, the time for the meeting of the Convention, instead of the first Monday in January, 1850. The report thus amended, and modified in other respects to suit this change, was adopted by the Convention as follows:—

"The committee appointed to suggest a plan for organizing the next Convention report, that they have taken the subject into consideration, and ask leave to submit the following resolutions, which, with a few modifications, are the same as those adopted in 1830, for the organization of the present Convention.

"1. The President of the Convention shall, on the first day of May, 1849, issue a notice, requesting the several incorporated State Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy, throughout the United States, to elect a number of delegates not exceeding three, to attend a general Convention to be held at Washington on the first Monday in May, 1850.

"2. The several incorporated bodies thus addressed, shall also be requested by the President to submit the Pharmacopœia to a careful revision, and to transmit the result of their labours through their delegates, or through any other channel, to the next Convention.

"3. The several medical and pharmacutical bodies shall be further requested to transmit to the President of this Convention the names and residences of their respective delegates, so soon as they shall have been appointed; a list of whom shall be published, under his authority, for the information of the medical public, in the newspapers and medical journals, in the month of February or March, 1850.

"4. In the event of the death, resignation, or inability to act of the President of the Convention, these duties shall devolve upon the Vice President, and, should the Vice-President also be prevented from serving, upon the Secretary or the Assistant Secretary, the latter acting in the event of the inability of the former."

George B. Wood,
Thos. Sewall, } Committee.
Robley Dunglison,

Washington, Jan. 3d, 1840.

The following resolutions were offered by Dr. Wood, and adopted by the Convention:

Resolved, 1st. That the Secretary take charge of and preserve the existing records until his successor shall be appointed by the Convention of 1850, when it shall be his duty to hand them over to such successor;—2d. That in case of the death, resignation, or inability to act of the Secretary, his duties shall devolve upon the Assistant Secretary;—and 3d. That it be recommended to future Conventions to appoint their Secretary or Secretaries from members residing in the District of Columbia.

Dr. Bond offered the following resolution, which was adopted. *Resolved*, That the Committee of Revision and Publication be requested to take such measures as they may deem most effective to induce Physicians and Apothecaries to adopt the nomenclature of the Pharmacopœia in their prescriptions and labels.

Dr. Dunglison offered the following resolution:—*Resolved*, That the officers of this Convention be requested to prepare forthwith, for publication, such parts of the transactions of the Convention as may seem to them to be adapted for making extensively known its important objects and proceedings; and that they be authorized to publish the same in the various Medical Journals of the United States, and in such of the daily and other newspapers as they may think proper.

This resolution was adopted; and it was made the duty of the Secretary and Assistant Secretary to carry it into effect.

Having transacted business of great interest to the Medical Profession of their country, having passed votes of thanks to the officers of the Convention, "for the able and dignified manner in which they had discharged their respective duties," and to the Board of Aldermen of Washington for the use of their Hall, the Convention, after a session of three days, characterized by a spirit of generous cordiality, which must contribute greatly to secure the objects for which they met together, adjourned.

By order,
N. W. WORTHINGTON, *Secretary.*
HARVEY LINDSLY, *Assistant Secretary.*

BIBLIOGRAPHY.

Elements of Pathological Anatomy. Illustrated by numerous engravings. "*In morbis sive acutis, sive chronicis viget occultum, per humanas speculationes fere incomprehensible.*"—Baglivi. By Samuel Gross, M.D., Late Professor of General Anatomy, Physiology, and Pathological Anatomy, in the Medical Department of the Cincinnati College. Two vols. Pp. 518 and 510.

The appearance of this work is creditable alike to its author and publishers: to the first, for the ability and industry displayed in its compilation and production;—to the second, for their liberal venture in a comparatively new department on this side of the Atlantic. The merits of these two parties on the ground just stated would entitle them to receive from the medical public prompt and liberal encouragement by a large and ready sale of their book. But, happily, another and a stronger motive will be operative in quickening the attention and securing the support of this third party. It is, the positive benefit to themselves precurable by a careful perusal and study of the pages of Dr. Gross; and we may as well declare at once, that they will be faithless to their trust if they wilfully shut their eyes to his large collection of facts, which are hardly less important by their not constituting a body of doctrine.

If the limits of our Journal allowed, we would gladly embrace the present occasion to engage in a detailed critical examination of the volumes before us, and introduce at the same time such views and facts as might serve to illustrate more completely the text. But, according to our wont, we must be content chiefly with a brief analysis, so as to give the reader a tolerably accurate notion of the range and mode of investigation pursued by the author.

In his Preface, Doctor Gross animadverts very properly on the neglect of pathology as a branch of elementary medical study in the United States. "It displays a degree of apathy, to say the least, on the part of our schools, which is alike disreputable to them as seminaries of learning, disgraceful to the American profession, whose dignity and usefulness they ought to have at heart, and injurious to the progress of medical science." This stigma will, we believe, be in progress of effacement by such works as those of Doctors Gross and Horner,* and by the labours of such bodies as the Pathological Society of Philadelphia recently instituted.

It is impossible to attempt a notice, however meagre, of the contributors to pathological anatomy without reference to Bichat—a name dear to every medical inquirer, but one not yet, we fear, sufficiently familiar in the proper sense—a knowledge of his writings—to the profession in this country. We, therefore, insert with the more readiness the following just tribute to the merits of this great man.

> "The appearance of Bichat, towards the close of the last century, on the great theatre of active life, constitutes a new epoch in the history of medicine, pregnant with the most important events. From the thorough revolution which has been effected by his writings, in the total subversion of the various artificial systems of nosology which flourished up to the period adverted to, we may justly award to him the honourable and well-merited title of the "father of modern pathological anatomy;" and to his influence and example, more than to those of any other individual or sect in medicine, are unquestionably to be ascribed all the discoveries and improvements which have been achieved, in different quarters of the civilized world, since the time in which he wrote. The admirable works of his countrymen, Laennec, Bayle, and Corvisart; Broussais, Louis, Andral, and Cruveilhier; of J. F. Meckel, of Germany, of Abercrombie, of Scotland, and of Hope, Mayo, and Carswell, of England, are all traceable, directly or indirectly, to the extraordinary impulse transmitted by this illustrious man: they are enterprises of the highest utility to medicine, and afford a happy illustration of the spirit of inquiry and philosophy which actuates the physicians of the age in which we live."

The work is divided into two parts: the first, on the *General Principles of Pathological Anatomy;* the second, on *Special Pathological Anatomy.* Inflammation is the subject of the first chapter, in which, speaking of the term *organic*, the author says:

> "By pathological anatomists the word is generally employed to denote some permanent change in the textures of an organ; but, in the sense that I would use it, I would not only include under it all such lesions, but also every temporary alteration which the tissues experience when in a state of disease. The term organic will then have a wider latitude; and, as expressing the same thing, we shall often have occasion to use the word structure. If this acception be adopted, it may perhaps be doubted whether, under any circumstances, there can, strictly speaking, be a functional disease, or, in other terms, a mere aberration of the physiological state of a part, without some change in its anatomical elements. The question, at all events, is not settled."

We are not prepared to accede to the correctness, without farther qualification than he gives, of the "general proposition, liable to few exceptions," advanced by Dr. Gross: "that all organic diseases, whatever be their seat or extent, are the result of inflammatory action, either of an acute or of a chronic kind."

In saying that "affections of the urinary bladder are comparatively rare in the young," the author overlooks the incontinence of urine and calculus frequent in persons of this class.

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* A Treatise on Pathological Anatomy. By William E. Horner, M.D., etc., etc. Philadelphia, 1829. We learn that a second edition of this work is in its passage through the press.

Experience proves the correctness of the remark, that "the seasons of the year in which inflammation is most prevalent are winter and spring:" and, as a corollary, it might be added, in climates which by their vicissitudes resemble most nearly these seasons. Hence we cannot agree with the author when he affirms, that inflammation is more common in cold and hot climates than in such as are temperate. If we receive the generally recognised meaning of the word temperate, it will be found to designate those regions of the earth between the extreme northern and cold latitudes and the far southern and hot ones, viz., the greater part of Europe and the northern and middle sections of the United States, in which the number and complexity of the phlegmasiæ are excessive, and far more abundant than either to the north or to the south, in cold and hot climates.

After indicating the difference in the readiness of tissues to become inflamed, Dr. Gross proceeds to investigate the nature of inflammation, its seat, and the phenomena which characterize it. Into this investigation we cannot follow the author, but cheerfully refer the reader to the text for an instructive summary and digest of the series of the anatomical characters of this morbid state—whilst we object to such figurative language as that of "consciousness evinced by the mucous membranes." The causes under which *congestion* and *discoloration* may be produced, both before and after death, are enumerated and explained in the concluding part of the first chapter.

The terminations of acute inflammation having been specified, the second, or the effusion of serum, is the theme of Chapter II. "The amount of fluid varies, under different circumstances, from a few drops to several gallons. The rapidity with which it is poured out, even in large quantity, is sometimes surprisingly great. In persons bitten by venomous serpents the whole body often attains an enormous size in the course of a few hours from this source, and some of the internal organs are literally inundated."

The third chapter has for its head the new-made word of *Lymphization*. We would prefer much 'Formation of Lymph'—a phraseology sufficiently brief and expressive, and not open to the imputation of either barbarism or pedantry. The opening sentences of this chapter run thus:

> "If there be still some doubt as to the question, whether effusion of serum is invariably of inflammatory origin, there can be surely none respecting that of fibrin. So true is this, in reference to the latter product, that it may be assumed as a law, than which there is none more satisfactorily established in pathological science." And again: "We only beg the reader to remember that the effusion of fibrin, gluten, or coagulating lymph as it is variously termed, is uniformly the result of inflammation, and that it forms, occasionally, the only necroscopic sign which we have of the existence of this lesion."

In speaking of the uses of lymph as a means of restoration, Dr. Gross remarks:

> "It is upon a knowledge of this property of coagulating lymph, that are founded some of the most astonishing improvements that have been achieved by modern surgery. Amongst these the most remarkable are the operations for tying arteries, in cases of aneurism, so much perfected, if not devised, by John Hunter; and for repairing mutilated organs by transplanting parts from one region of the body to the other. Much good has also resulted in respect to the treatment of incised wounds; whether produced by accident, by the removal of a tumour, or the amputation of a limb. In all these instances it is customary, in every part of the civilized world, with the exception, perhaps, of France, to en-

deavour, if possible, to bring about union by the first intention; the surgeon well knowing that if this can be effected he will save himself much trouble, and the patient no little suffering and inconvenience."

Hemorrhage, *softening*, *gangrene*, *ulceration*, *granulation*, *cicatrization*, *induration*, *hypertrophy*, and *atrophy*, are the subjects of so many chapters in which these several morbid changes are clearly and yet briefly described. We would object, however, to the unqualified assertion that "next to redness, softening may be regarded as decidedly the most unequivocal sign of the existence of phlegmasial irritation." Abercrombie and Andral render it very probable, if not evident, that softening of the brain, for example, will take place without prior inflammation. Andral says expressly: "Softening of the brain does not necessarily commence by an hyperemia; it is not necessarily complicated during its course even with sanguineous congestion; neither does it necessarily lead to suppuration; it exists as a lesion independent of any other lesion; it is not uniformly either the termination or commencement of any other, but many others may accidentally become complicated with it."*

In the chapter on Gangrene, the author gives an account of that variety of it caused by the use of *ergot*, or of grain in which this is mixed: and also of the effect of severe vomiting and purging in the production of gangrene.

Dr. Gross, in the fourteenth chapter, or that on *transformations*, animadverts on the error of preceding writers, who have confounded analogous tissues and analogous transformations. "If the word means anything at all, and if it is to be retained in the writings of pathological anatomists, it means, and should be restricted to, those changes which a preëxisting tissue undergoes, as it is being converted into another that is totally different from it, but which has its analogy in the animal economy.

"Viewed in this light, the transformations are really few in number, and may be stated as follows: 1, the cellular; 2, the mucous; 3, the cutaneous; 4, the fibrous; 5, the cartilaginous; 6, the osseous; 7, the adipous."

The following chapter is devoted to the subject of *hydatids*, the numerous and curious descriptions of which bodies in the text are illustrated by accompanying wood-cut engravings. The mere routine practitioner and text book-reading student will be astonished, after a perusal of this chapter, that they should have been so entirely ignorant of the true meaning to be attached to the word hydatid, which they have from time to time met with in medical works.

The last kind of transformation noticed, is that of *serous cysts*. After this comes a long and interesting chapter on *heterologous formations*, which opens thus:

> "By the term heterologous, are understood certain morbid products, of a solid or semi-concrete consistence, which have no resemblance whatever, or at most only a very remote one, to the natural, normal, or preëxisting tissues of the body. It is of Greek derivation, literally signifying unlike, dissimilar, or without analogy; and is employed by many as synonymous with the word heteroclite, first devised, I believe, by some of the German anatomists.
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> "These morbid products occur at all periods of life, in both sexes, and in nearly all the organs and tissues of the body. Their origin, although still enveloped in obscurity, is probably of an inflammatory nature, attended with an aberration of the nutritive function, and the deposition of a new substance unlike that, as we have already stated, in part or entirely, of any other in the animal organization."

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* Medical Clinic: Diseases of the Encephalon, p. 190, in Select Medical Library for 1837-8.

Some might prefer the simpler arrangement by which all the morbid changes, from inflammation on to cancer, including those mentioned by Dr. Gross, are classed under the head of "*Vices of Texture*," for such they really are. One order would consist of the morbid changes of a normal part of the organism, in consequence of inflammation, or some analogous process. The other would include the heterologous formations of Dr. Gross, and consist of *formations of new substances, either not previously existing at the particular spot, or in the body.* These are *spurious formations*, the *pseudoplasmata*, or *pseudorganizationes* of some writers. As commonly productive of local swellings, they have, also, been numbered among tumours. Of these again, there are two kinds; one nearly resembling the natural tissue, the other having a disposition to seize on and destroy the neighbouring parts. The first are encysted tumours, or *serous cysts* described by the author of the work before us antecedently to speaking of heterologous formations; the second include *tubercles, sarcoma, and cancer.**

The four sections of the seventeenth chapter, now under notice, are devoted to respectively, *tubercle, melanosis, scirrhus, encephaloid.* The appearance and intimate structure of these spurious formations are exhibited in coloured plates at the end of the volume, and are referred to in the text.

Respecting *tubercle*, it is said that the period of life most liable to it is between twenty and forty years. "But no age is exempt from it, and what is remarkable, it appears occasionally to exist as an intra-uterine malady. The late Professor Chaussier, of Paris, has related several cases of miliary tubercles in the lungs of the fœtus; and more recently several analogous examples have been published by Billard and Husson." But such instances are of comparatively rare occurrence, since, "in many hundred dissections of new born infants made in Paris, by Breschet, Guizot, and Velpeau, these bodies were not seen in a single instance."

Although there is no organ of the body in which tubercle has not occasionally been observed, yet "the lungs, lymphatic ganglions, the liver and the spleen, together with the peritoneum, the intestinal canal, and the false membranes of the splanchnic cavities, are the parts, beyond doubt, in which tubercle is most frequently observed. Of these parts the summits of the lungs and the lymphatic ganglions, especially those which are clustered round the bronchial tubes, are those in which the heterologous matter is most generally deposited; and it is important to remark, as has been justly observed by Professor Alison, of Edinburgh, that these are textures in which the capillary circulation must necessarily be very tardy."

It would have been as well if Dr. Gross, when treating of Scirrhus, had stated more explicitly, for the benefit of his less learned readers, that it is the precedent of cancer, and that, in fact, this latter may be called ulcerated scirrhus; which last is of two varieties. The first, in which the ulceration is still internal, and is hence called *hidden cancer, cancer occultus;* the other, *open cancer, cancer apertus;* in which, after the skin above has become wrinkled, knotty, discoloured, and lead-coloured, it ultimately breaks with the effusion of much lymph.

The second part of Dr. Gross's work, on *Special Pathological Anatomy*, is rich in classified details of the physical and physiological properties and morbid changes of the several tissues, and is both a good exhibition of and instructive commentary on the division of the animal body into those primary structures.

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* See Otto's Compendium of Human and Comparative Pathological Anatomy. South's Translation, p. 59.

Descriptions and reflexions are alternated with much judgment and good taste, so as to prevent any feeling on the part of the reader that he is perusing a dry—albeit, a useful book. He will also be agreeably surprised, supposing him to take it up with the usual misconceptions and ignorance of the nature and relations of pathological anatomy, at the large amount of matter, at once curious and instructive, and susceptible of such frequent application for his guidance in the treatment of both general and local diseases.

The first chapter of this second part is on the *Blood*, in which the author describes the physical properties, chemical analysis, changes in the proportions, and deteriorations and destructive alterations of this vital fluid.

In the chapters on the *Arteries* and the *Veins*, and on the *Cutaneous* and *Nervous Systems*, we find an exhibition of the progress and nature of the changes of tissue, by which we can better appreciate the circumstances under which their diseases occur, and thus prevent their occurrence; the part this of true science and expansive wisdom.

After the tisues and their changes are described, Dr. Gross goes over *seriatim* the morbid appearances presented in the different organs—beginning with the eye. No small portion of the second volume is occupied with the requisite details of the diseases of the *lungs*, *heart*, *stomach* and *bowels;* as far as these are dependant on or sustained by organic alterations in these viscera. *Phthisis*, *pericarditis*, *endocarditis*, *gastritis*, *and enteritis*, are examples to this effect; on all of which the author brings a large mass of facts and useful induction to bear. We regret that it is not in our power to follow him in this wide range, and to exhibit, for the benefit of our readers, successive specimens of his meritorious exertions. But we have a consolation which we hope will prove real. It is; that the work will be sought after with avidity by the profession, and read and studied as its merits and their honour and interests require.

We ought not to conclude without mentioning the numerous wood engravings, interspersed with the text, and which give a clearer knowledge of the author's written descriptions. There is another merit, which belongs to the publishers; viz., the clear and full type in which the work is printed, and for which every reader should thank them, as we do.

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The Maryland Medical and Surgical Journal, and official organ of the Medical Department of the Army and Navy of the United States. Published under the auspices of the Medical and Chirurgical Faculty of Maryland. Editorial Committee, Doctors G. C. M. Roberts, Nathaniel Potter, James H. Miller, Robert A. Durkee, John R. W. Dunbar, Samuel George Baker. Baltimore: John Murphy. No. I. Pp. 136.* January, 1840.

The New York Journal of Medicine. No. III. January, 1840.

The Medical Examiner. Nos. 1, 2, and 3. Vol. III.

The American Phrenological Journal. No. 4. Vol. II. January, 1840.

The American Journal of Dental Science for December. Vol. I. No. IV.

It is due to comity and good feeling to place, as we do, the Journal which is of the most recent origin at the head of our list, for notice on the present occasion.

* This Journal will appear quarterly; each number to contain about one hundred and twenty-eight pages. Price $2 50 in advance; $3, if deferred.

The *Maryland Medical and Surgical Journal* has, at length, appeared, and under good auspices, too—the Editorial Committee. These gentlemen have, we may hope, plenary power to conduct the periodical placed under their charge in the way correspondent with their own judgment. Relying on themselves, and with a clear understanding, among each other, of the division of labour in editing the work, they may expect success. Societies impart no real influence to a periodical; but on the contrary, commonly diminish its efficiency, and are sadly behindhand in giving it circulation by the best agencies and other business channels. 'Put not your trust in princes,' is a well known aphorism of the Psalmist. Were he to admonish editors and literary men at this time, he would tell them put not your trust in Societies. For ourselves, whilst we would cheerfully associate in a literary enterprise with any one or two of fifty names that might be presented, we would shrink from a union of this kind with them collectively in a Society. We speak advisedly, and with the more confidence, because, after many and arduous trials of joint action with Societies, we retain the kindest feelings for all the individuals in them with whom we have had editorial and business intercourse. Our opinion, therefore, is the simple result of experience, without the alloy of pique or ill-will against any person. It is the ready-voting, confident-promising, but tardy and imperfect performance of a collective body, a Society, which we deprecate.

Might we venture another remark, more directly bearing upon the future course of our Baltimore brethren in the conducting of their Journal, it would be, a recommendation for the Committee to delegate to one or two of their number the executive charge of the work, for which, if the duty be found onerous, as it no doubt will be, the latter should receive (in fact and not in promise) from a proper fund some, we cannot say adequate, pecuniary compensation.

It may be thought presuming in us to offer advice thus publicly to persons who might be informally addressed for the purpose. But in this age of new schemes and combinations, it is only a matter of simple justice to the inexperienced, for one, who has been fully initiated in the mysteries of publication, and has seen much misdirected and illy-requited labour, to place on record some words of caution, and hints for guidance, in the venturesome passage after reputation and gain with the freight of periodical literature.

The first number of the Maryland and Surgical Journal contains a very fair amount of good readable matter; and is much more valuable than if it were marked by startling transcendentalisms, or historical and lexicographical lore. We believe that there is some improvement amongst us all on these points, and that a writer does not commit any great violence to his feelings, if, in giving an account of a new apparatus, he omits a description of the surgery at the siege of Troy, or a hundredth-time told anecdote of Ambrose Paré at that of Metz. If the theme be a new and modified view of the pathology and treatment of a disease, its author can dispense with a hacknied aphorism of Hippocrates, a reference to the *anima medica* of Stahl, and a repetition of the theories of Cullen and Rush, without his own actual experience being thought the less of.

We would cite, as indicative of a practical spirit, the articles on *Scarlatina* by Dr. Samuel Baker and Dr. Baer; on *Fracture of the Thigh* of an infant, successfully treated by the immovable apparatus, by Dr. Horatio G. Jameson, Sen., and on the use of this apparatus in fractured extremities, by Dr. Dulin. Not that we are inclined to join in all of the conclusions made by the two gentlemen first named; but the manner of presenting them is commendable. Of a suitable clinical character is the paper on *Mucous Papules* by Dr. Wiliam Power, of Baltimore. His descriptions are clear and precise, and manifest observation and experience in the premises. Dr. Power, in a note, after speaking in high terms of Dr. Ricord's studies and experiments on syphilitic chancre, tells us, that it was in the wards of this gentleman that he made most of the observations upon which this paper is founded, "so far as the natural history or pathology of the disease is conceived." We may perhaps recur to it with a view of making extracts for our own pages.

The cases in obstetrics, recorded by Dr. Roberts are also of a directly clinical nature.

Dr. Buckler's paper, "on the use of Gold-dust and Iron-filings as a Galvanic antidote to Corrosive Sublimate, and all the other poisonous compounds of Mercury," is valuable, both as regards the catastrophe which he thinks his proposed remedies would prevent, and the inquiries, direct and collateral, as well as the experiments which he has instituted and recorded with a view of meeting the proposed indication. This paper will engage our attention hereafter.

In Therapeutics, we find aid to the prior modes of treatment of *tinea* and *herpetic* affections by the use of soot, as recommended in a short paper by Dr. Lablache, and translated for the Journal. The lotion is prepared as follows:

℞	Soot of wood,	2 handfuls.
	Pure water,	℔i.
	Boil for half an hour.	

After each lotion the patient is directed to cover the part affected with a layer of the following ointment:

℞	Lard,	℥iv.
	Soot,	q.s.

Mix carefully, and by small quantities, until the lard shall assume a deep brown colour, then submit it for twenty-four hours to a slight boiling.

The surgical treatment of *carcinoma* by arresting the circulation of blood in the tumour, and of *nævi* by introducing threads at right angles to each other, '*darning*' as it were the base of the *nævus;* and finally, of *fistula lachrymalis*, by the introduction of a *persistent* style, is the subject of a short paper by Dr. R. W. Hall.

Akin to the above is a paper on the use of Elm Bark in Surgery, the initial or suggestive case of which is given in a letter to one of the editors from Dr. Linton, of Springfield, Ky., in which the successful results of the use of elm bark bougies are exhibited in a stricture of the urethra.

Under the *Review department* we find a good analysis of Dr. Montgomery's work on the Signs and Symptoms of Pregnancy, &c.*

The Bibliographical notices are neither numerous nor long; but give promise of a wider survey hereafter.

The Journal closes with a summary of Foreign and Domestic Intelligence.

In the line of Biography there is a brief Memoir of the late Samuel Baker, M.D., with an engraved likeness of this gentleman, and Reminiscences of Olden Times, in the form of a sketch of their appearance and manner as lecturers, of Drs. Rush, Wistar, Physick, Barton, and Woodhouse, the good old set of the Pennsylvania University.

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* Republished in the American Medical Library of last year.

We need not, we believe, sum up our estimate of the merits of the new Journal after the evidence, on this score, which we have placed before our readers. If instruction with variety, positive knowledge, and good feeling be recommendation to notice and patronage, it is entitled to be thus rewarded.

The NEW YORK JOURNAL OF MEDICINE AND SURGERY goes on its way with a pleasant aspect and abundant evidences of ability. The initial article in the January number now before us, is "an Essay on Club Foot and some analogous Diseases. By W. Detmold, M.D., of New York," to which is prefixed two plates representing various deformities of the foot. Dr. Detmold, in the preliminary or historical part of his essay, shows clearly, that although Delpech was the first who performed the operation by a division of the *tendo-Achillis* for club foot in the present century, yet that the credit of establishing the practice by inducing its frequent repetition by other surgeons, is due to Dr. Stromeyer, of Hanover. It would seem from the attestation of the parties themselves, that Dr. Dickson of North Carolina was the first who performed the operation in the United States, and after him Dr. N. R. Smith of Baltimore. The former operated in 1835, the latter in 1836. The first published report of cases of successful operation was made by Dr. Detmold himself in the *American Journal of the Medical Sciences* for May, 1838.

A *Clinical Lecture* by *Dr. Stevens*, on the *Operative Surgery of Tumours*, is followed by *Observations on the Influence of Malarious Atmosphere in the Prevention and Cure of Phthisis Pulmonalis*, by Horace Green, M.D. The cases adduced by the author of this last paper are four in number, of persons who had marked symptoms of pulmonary consumption, but who were cured by a residence in marshy districts, in which they were seized with intermittent fever. The argument would have been stronger if the symptoms as developed by auscultation and percussion had been recorded, so as to prove that these persons had something more the matter with them than chronic bronchitis with occasional hæmoptysis.

Doctor Green does not make any allusion to the cases, recorded in Journals, of the relief and apparent cure, in some instances, of persons who went from England to Holland, and from the northern region of our own country to Norfolk and the vicinity of the Dismal Swamp. But he gives additional information in what came under his own cognizance, by contrasting the topography and climate of Rutland, Vermont, and of Whitehall, Washington County, N. Y.,—in the former of which places, out of one hundred and eight deaths of adults over twenty years of age, there is nearly one-half from consumption ; whilst in the latter, with nearly the same number of inhabitants, consumption is seldom or never known, but the ague and fever is very common.

"I have been at much pains, says Dr. Green, in making inquiry, and I have not been able to learn that a single, unequivocal case of *indigenous* phthisis has occurred in Whitehall during the last ten years. All the other lake towns in that region, so far as I have been able to ascertain, where intermittents prevail, are equally exempt from pulmonary phithisis."

Very truly does Dr. Green remark, at the conclusion of his paper, that "this subject—the influence of climate upon diseases—especially the varied climate of our own country, has not, I am confident, received that attention from medical men which its importance demands."

Under the head of *Hospital Reports*, there is a series of observations preceded by cases on *Stricture of the Urethra*, by Dr. Post. The treatment, which he describes as applicable to *permanent strictures*, comes under the six divisions, of dilatation, ulceration, cauterization, perforation, incision, and excision.

The next report is on *Diseases of the Skin*—a subject hitherto little explained in this country by an appropriate clinic. The author of the present paper is Dr. Bulkly, physician to the *Infirmary for Diseases of the Skin.* The number of cures recorded for this year in the Institute, and on which Dr. B. discourses, was two hundred and thirty-one.

A fair proportion of Reviews and Bibliographical notices, follows the original articles; and the number is terminated by a department called Scientific Intelligence, the articles which, though intrinsically good, are not adequately designated by this title; nor are they sufficiently contrasted with others in the body of the Journal for them to be thus headed.

The MEDICAL EXAMINER has entered on its third year, and continues to display its characteristic features, of home clinical lectures, letters and communications from foreign and domestic correspondents, and short (somewhat too short) bibliographical notices.

The AMERICAN PHRENOLOGICAL JOURNAL AND MISCELLANY, is continued into its second year with spirit. The first article of the January number is a review of Roget's Outlines of Physiology, in which that author, and his *Appendix on Phrenology*, are not treated with the most honied phrases.

There is more matter of diversified interest in the pages of this number than in some preceding ones; as the reader will see by reference to the articles on an Organ of Muscular Motion, by Dr. W. Byrd Powell, Mental Exercise as a Means of Health, Predominance of Certain Organs in the British Poets, Character of Eustache, the benevolent Negro, Notice of Combe's Lectures on Phrenology, &c.

The fourth number of the AMERICAN JOURNAL OF DENTAL SCIENCE, being that for December, 1839, has the beginning of Part II. of John Hunter's Treatise on the Teeth, with accompanying Plates. The original contributions manifest zeal and ability. Additional variety for the pages of the Journal is procured by the insertion of *Memoirs of the Life of the late Mr. John Greenwood*, who was for many years the dentist of Washington. Mr. Greenwood saw service in those times which tried men's souls, before he had an opportunity of trying his own skill, and his fellow citizens' nerves, by operations on their teeth.

The list of subscribers now published, shows that there is adequate means for continuing the Journal. But where so many are interested in this matter—both the large class of professional dentists and of country physicians, who on occasions must officiate as dentists—we must not be allowed to doubt of its not only living, but flourishing.

A Lecture Introductory to the Course of Surgery in the Jefferson Medical College of Philadelphia. For the Session of 1839-40. By JOSEPH PANCOAST, M.D., Professor of the Institutes and Practice of Surgery in Jefferson Medical College; one of the Physicians to the Institution for the Deaf and Dumb; Fellow of the College of Physicians, &c., &c. Published by the Members of the Class. Philadelphia. Pp. 16.

Introductory Lecture before the Albany Medical College. Delivered, November 12, 1839. By THOMAS HUN, M.D., Professor of Institutes of Medicine. Published by Request of the Class. Albany. Pp. 30.

DOCTOR PANCOAST, himself zealously devoted to his profession, an industrious student, and punctual and pains-taking in the exercise of the duties which it requires, may very properly enjoin, as he does in this lecture, similar devotion and industry on those who are yet engaged in their preparatory studies. His references to the names of men who have acquired honours and distinction whilst successfully prosecuting the practice and enlarging the boundaries of surgery, were both appropriate to his theme, and encouraging to his auditors. Of course such men as Scarpa and Hunter, and Dupuytren, and Langenbeck and Velpeau are introduced with peculiar effect to show the eminence which may be attained by talents, strengthened by industry, and impelled by noble ambition, without the adventitious aids of wealth, family station, or the support of a capriciousp atron.

The recommendation to study anatomy will always be echoed by every surgeon; nor is a knowledge of structure scarcely less important to the physician. Dr. Pancoast very justly observes, "In fact, although every physician need not be a surgeon, every truly excellent surgeon *should* be, *must* be, a good physician. Whatever may be the opinion of the vulgar on the subject, there is more skill required and more enduring reputation gained, in the opinion, of all refined and intelligent men, by the saving of one limb, than in the most dexterous amputation of a dozen."

The Lecture of Dr. Hun is written in a spirit of calm and elevated philosophy, and with a certain entireness of view which prevents an attempt to do it common justice by occasional quotations. Much of it is taken up with general ideas concerning the sciences and arts, and the relation which they hold to each other. We might, if room were allowed, object to some of the propositions of the lecturer, respecting his phraseology of the mental processes by which knowledge is acquired, even though he have the example of the eloquent and acute Dr. Thomas Brown on his side. We refer just now to the term *consciousness* which the writer just mentioned regards "as only another name for *internal* observation," and on which, as he argues, all physical science is founded.

After laying down the general premises on the origin and object of the sciences as connected with man's nature and wants, and the relation which they bear to the arts, Dr. Hun makes the application to medicine. He proceeds thus:

"There is then an art of medicine and a science of medicine. The art of medicine consists in placing one suffering under disease in such a combination of external circumstances as shall restore the system to a state of health. This art is founded upon the knowledge of the structure and functions of the system, and of the manner in which it is affected by medicine and other agents; in other words, the art of medicine is founded upon the science of organized matter."

Medical science and empiricism are next contrasted, and the basis on which both rests is exhibited. Observation and experience are appealed to by both; but in very different degrees of accuracy and extent. It is well said by Dr. Hun, that "the practice of the empiric differs from that of the man of science just as the knowledge of physiology and pathology, which exists in the public, differs from that of him who has made it a subject of meditation and study."

The lecturer alludes, at the close of his discourse, to the inordinate zeal bestowed on the mere accumulation of wealth at the present day in our country; and while properly reprobating it as an ignoble spirit, deadening all high aspirations and noble ambition, expresses a natural, and, we hope, a well-grounded belief, that the medical profession might afford "a fitting refuge against this vandalism of money-making and speculation."

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ON DISEASES OF THE KIDNEYS.*

(Concluded from p. 132.)

M. Solon's volume contains some cases seeming to show that hyperæmia of the kidneys, produced by common causes, will produce albuminuria; but it must be confessed that as no post-mortem examination was made in these cases, the exact condition of the organs is a matter of doubt.

b. We for the present pass over this division of our second class; the proofs of their being entitled to hold the place we have given them will be adduced when we speak of the different organic diseases enumerated.

c. The operation of this class of causes of albuminous admixture is easily intelligible.

The urine becomes loaded to a greater or less extent with semen, under a variety of circumstances. Thus it is well known that the secretion of the testes escapes into the urethra in certain cases of paralysis, and in consequence of excessive venereal indulgence, and that when the bladder is evacuated shortly after coition, its contents carry with them a certain quantity of seminal fluid. Again, a reflux of this fluid may take place into the bladder, immediately after its entry into the urethra, during the act of copulation, in cases of stricture of that canal; and M. Rayer has lately attended two persons labouring under obstinate constipation, who voided pure semen while at stool; that the fluid was seminal and not prostatic, was proved by the discovery of a multitude of spermatic animalcules.

The presence of these Entozoa is, according to M. Rayer, the only infallible sign of that of semen; for the nebulæ and sediments of spermatic urine are not, by their simple appearance, distinguishable from those produced by impregnation with mucus. The specific gravity of the animalcules being greater than that of the fluid, in which they are suspended, they sink to the bottom of the vessel in twenty-four hours or so, and may then be easily recognised with the microscope. They may be detected in the sediment weeks after its deposition, for though urine kills them almost instantaneously, it retards their putrefaction. The absence of Spermatozoa does not, however, in all cases positively prove that the urine contains no semen, for in phthisical and many aged subjects the latter secretion contains but a very small share of animalcules; such at least is M. Rayer's statement. In cases where the urine is rendered turbid by imperfect semen of this kind, we may be guided in ascribing the muddiness to its true cause, as well by the absence of the microscopical characters of mucus, &c., as by these positive signs: acidity, *general* turbidity, which persists, but does not increase under the action of heat and nitric acid, and exhalation of the peculiar odour of semen during evaporation. We have been thus particular in enumerating the characters of seminal impregnation, because we are persuaded that its discovery may now and then become a matter of real practical importance. Dr. Willis somewhere remarks, in the work recently reviewed in this Journal, that such detection may occasionally give a clue to the origin of emaciation and cachectic symptoms, in cases where the practitioner has puzzled himself in vain in searching for organic lesions to explain the condition of his patient.

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* From the Brit. & For. Med. Rev.

M. Rayer is acquainted with no method of distinguishing the secretion of the prostate gland when mixed with urine.

D. Cotunnius maintained that "all the vapours exhaled in the various cavities of the body as well as the urine become coagulable during disease." (*Morbi vi.*)* Our countryman, Cruickshank, believed that albuminous urine attended "every case of increased action of vessels, more particularly of the inflammatory kind."† Nysten announced in 1811 the presence of a large quantity of albumen in the urine of a subject who died rapidly of acute peritonitis, and appears to have conceived albuminous impregnation characteristic of inflammatory urine generally, though he allows it may sometimes depend on a particular condition of the urinary organs.‡ M. Rayer, also, to pass over a variety of evidence to the same effect, supplied by intermediate observers, states positively that the urine may contain albumen in acute affections for a period of several days, that its appearance almost always coexists with an increase of specific gravity, and of the healthy proportion of lithic acid and lithate of ammonia, and ordinarily indicates congestion of the kidneys, ureters, and bladder. M. Andral, too, declares that he has occasionally met with coagulable urine in the course of acute diseases.

But the most striking observations, appertaining to this matter, have recently been made public by M. Solon: to this gentleman the profession is beholden for the announcement of a presumed connexion between the appearance of albumen in the urine and the establishment of a favourable crisis in acute febrile and inflammatory disorders. We shall first lay an abstract of his facts before the reader, and then make a few remarks as to the claim of such urine to be termed a "critical sign." Upwards of one hundred pages of M. Solon's volume are occupied with a disquisition on this subject.

His cases are divisible into two distinct groups: in one of these the urine appears to have become coagulable by heat and nitric acid, precisely in the same manner as in Bright's disease; in the other, precipitable by nitric acid but not coagulable by heat; ebullition, on the contrary, here redissolves the precipitate occasioned by the acid. There can be no doubt that in the first group of cases the coagulation depended on the presence of albumen; and we are told that the foreign principle disappeared gradually with the advancement of convalescence: the action of heat showed that the precipitate in the second was not of albuminous nature, and the microscope in the hands of M. Donné, that it was really composed of lithate of ammonia. The following table gives at one view the results of M. Solon's experience on this matter:—

DISEASES.		Number of Cases.	Coagulability.					
			Not produced by any reagent. A.		Produced by heat. B.		Produced by nitric acid. C.	
			Recovered.	Died.	Recovered.	Died.	Recovered.	Died.
Intermittent fevers		8	1	0	2	0	5	0
Febrile Exanthemata	Measles	7	2	0	1	0	4	0
	Variola	11	6	0	1	0	4	0
	Scarlatina	3	1	0	1	0	1	0
	Pemphigus	1	0	0	0	0	1	0
Typhoid fevers		23	3	1	3	1	15	0
Bronchitis		1	0	0	0	0	1	0
Pleuropneumonia		24	2	0	2	0	17	3
		78	15	1	10	1	48	3

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* Op. cit., p. 31.

† Rollo on Diabetes, p. 444.

‡ Recherches de Chim. et de Phys. Pathologiques. Paris, 1811, p. 253.

Hence it appears that the urine of $\frac{1}{11}$ of a mass of patients affected with acute diseases may be expected to become albuminous at some period or other before their recovery. The cause of this phenomenon is not easily demonstrable; M. Solon himself seems inclined to ascribe it to "a modification of secretion, occasioned by a nervous influence;" an hypothesis which cannot be said to boast of much plausibility. But no matter how they are to be accounted for, it is manifest that these facts, if correctly observed, clash with the too prevalent notion that albuminuria is pathognomonic of a certain affection of the kidneys; it is right, however, that the reader should be put in possession of Dr. Christison's mode of attempting to evade their force. We quote his words: "It is fair and reasonable to throw out the query, whether, considering that urine decidedly albuminous is a very rare concomitant of the crisis in these acute diseases, the cases where it does occur may not actually be instances of a tendency to granular deposition, arrested along with the local and general reaction which it accompanies? The affirmative is a perfectly reasonable answer. Singularly enough, in the only two cases where I have observed coagulable urine during the crisis of acute diseases, namely, in two cases of acute pneumonia, the progress of matters unequivocally proved that the patients laboured under granular degeneration of the kidneys." (p. 42.) In this view, however, Dr. Christison has been anticipated, strangely enough, by M. Solon himself, who has tendered it in explanation of Dr. Gregory's case of typhoid fever with coagulable urine, while he has totally overlooked its applicability to his own cases. It was certainly incumbent on Dr. Christison to publish accurate histories of the cases to which he alludes, and so allow the medical world to judge for itself whether their progress was really such as he presumes it to have been. The question is too important a one to be decided by mere assertions.

The second group of cases is unimportant in respect of the presence of albumen; but, combined with the first, it shows that *precipitable* urine may be looked for in very nearly three-fourths of all cases of acute febrile disease. It remains to be asked whether these conditions of the urine really constitute a "critical sign" of the resolution of the affections during which they are observed? By referring to the Table (p. 158), it will be seen to contain nineteen exceptional cases in this point of view: 15 in the columns A; one in those headed B; 3 in those marked C. M. Solon must be heard in explanation of these exceptions: In respect of the 15 cases of recovery wherein no precipitate occurred, he reminds us that the kidneys are not the sole critical emunctory,—that the skin and intestinal canal should not be forgotten: and that the greatest number of exceptional cases were of small-pox, where the skin may be supposed "to be specially charged with the critical movement." Again, the patient who died in spite of his urine having become albuminous, "was affected with splenitis, and *may have* suffered from absorption of pus, which, in its turn, *might* have caused the passage of albumen into the urine." We have already adverted to the probability of purulent urine being thus induced. Lastly, the phenomenon existed "in a very moderate degree" in the exceptional pneumonic cases. The reader will form his own judgment of the validity of this author's defence; he will probably be guided therein by learning that coagulability occurred in "a transient and, *as it were*, insignificant manner at various periods of the diseases mentioned" (here M. Solon confirms the statements of previous writers); "frequently supervened, and then disappeared, *because* other morbid phenomena declared themselves; but finally appeared again, to announce definitive resolution."

It is not a little remarkable that Cruickshank (Op. cit., p. 448), believed the *disappearance* of the albumen from the urine to point out the same favourable turn in the course of inflammatory affections, which is indicated, acording to the French writer, by its *appearance* therein. A third version, possibly, however, coinciding with that of Cruickshank, comes from Dr. Mateer (Loc. cit., p. 92); he conceives that albuminuria occurs towards "the turn of fever: that after the kidneys have for some time secreted albumen, this suddenly disappears, and lithic acid and the lithates are formed in its place, and in this way the *crisis per urinas* is affected." The truth is that albuminuria is an occasional concomitant of acute diseases; but what relation it may bear to what is termed their crisis in utterly unknown; how, indeed, could the fact be otherwise, when the reality of that crisis is still a problem?

Dr. Copland states that he has observed coagulable urine frequently in the acute diseases of children, "where no alteration of the kidneys existed." These facts are unimportant, according to Dr. Osborne, because the urine is quite differently constituted in children and adults. We know not whence Dr. Osborne has derived his information, which is wholly irreconcilable with the results obtained by modern chemists of repute.

The belief in the occasional presence of albumen in the urine of hysterical subjects seem to rest on an analysis made by Peschier in 1826.* It is impossible, however, even to guess what may have been the organic condition of the individual supplying the urine examined; indeed, the title given to the article is the sole evidence of the existence of hysteria; and its author does not appear to have been a medical practitioner. Both Nysten and M. Solon have in vain sought for a particle of albumen in the urine in various nervous affections.

When Dr. Copland, in imitation of Dr. Wells, speaks of albuminous flocculi being deposited during the continuance of the anasarca, occasionally succeeding scarlatina, he probably confounds mucous nebulæ with the coagulable principle; but that the latter is discoverable under those circumstances frequently, if not constantly, no practical observer now disputes. The condition of the kidneys in these cases is, however, not yet decisively settled. Burserius, Fischer, Dr. Blackall, and others, have furnished evidence of their presenting more or less marked signs of inflammatory action; but accounts of dissections published before the general promulgation of Dr. Bright's doctrine, need not, for obvious reasons, be examined at any length. Thus limited as to the date of our documents, the earliest communication we find on the subject is that of Mr. Hamilton.† In several cases of death occurring in patients anasarcous after scarlatina, that observer found the kidneys diseased: and on showing accurate drawings of their lesions to some Edinburgh professors, these gentlemen pronounced them to represent specimens of the early stage of Bright's disease; the descriptions given in the essay justify their decision. Cases are also related here, showing that the urine may be coagulable and the kidneys diseased, before the termination of the primary fever.

MM. Sebastian and Constant and Dr. Mateer give their testimony to the correct observation of Mr. Hamilton; in the volume before us, too, Dr. Christison supplies two cases (x. and xxvi.) which he regards as unequivocal examples of Bright's disease, produced by the renal irritation consequent on scarlatina.

On the other hand Dr. Graves‡ has, as he avers, seen a case of dropsy after the eruption in question with highly albuminous urine, wherein the kidneys "presented a perfectly healthy structure;" and Dr. Willis (Op. cit., p. 157), is led to conclude that structural disease of those organs could not have been the cause of the albuminuria almost constantly observed by him to accompany the condition in question. We regret sincerely these authors should have deceived themselves into the belief that vague impressions—and these, in the instance of the latter, almost dubitatively stated—could have any weight in the decision of a question of facts like the present. Had they faithfully recorded the cases to which they refer, they would have done good service to renal pathology; as it is, they have simply excited doubts, without producing a particle of conviction. Unfortunately their error is common to the majority of the medical writers of the day. Open any work you please, and with the rarest exceptions, you will search its pages in vain for well-observed *facts*, and as surely will your equanimity be ruffled by the constant recurrence of egotistical displays of empty *opinions*.

We are not aware whether any investigation have been made into the condition of the urine in the anasarca following, in some instances, the other exanthemata.

It has been asserted that the urine is sometimes albuminous in gout; no particulars of the organic condition of individuals thus affected are given by the authors of the assertion.

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* Journal de Chim. Medicale, vol. ii., p. 234.

† Edin Med. and Sur. Journ., Jan. 1833.

‡ Med. Gaz., Oct. 20, 1838.

Organic diseases, uncomplicated with renal lesion, undoubtedly form the most important class of cases, distinct from those of Bright's disease, wherein albuminuria may occur,—inasmuch as the existence of that symptom is in them most likely to betray the observer into an erroneous diagnosis. Dr. Darwall was the first to bring forward an example of the coexistence of albuminuria, dropsy, disease of the heart, and "perfect soundness" of the kidneys.* Professor Forget's seventh and eighth cases exemplify a similar combination of circumstances,† and M. Solon has added another to the list. Dr. Christison, however, strives to deprive the facts of the French observers of their importance, by hinting that they were not perfectly competent judges of the morbid anatomy of the kidney, at the time they met with them. On this we have to observe, that M. Solon is to our knowledge, a man of most sound general information, and had, besides, been at least a year engaged in the study of renal pathology at the period in question. And, as respects M. Forget, the attestation of the absence of renal lesion is clear and straightforward; and further, given unusual weight by the fact that its author actually expresses vexation at his inability to find a trace of disease in the kidneys. We must warn the reader, too, that it is utterly incorrect to state, as Dr. Christison does, that M. Forget "appears always to have looked for some degree of granular deposition;" on the contrary, he pointedly declares that he adopts the term albuminuria, because such deposition is not a constant phenomenon.

M. Solon narrates the history of a subject who died with anasarca, bronchitis, diseased intestine, and healthy kidneys, and had, during life, discharged albuminous urine. Dr. Morrison, again, has recently given the particulars of a case of aneurism of the ventral aorta, which terminated fatally by rupture and effusion of "at least four quarts" of blood into the abdomen; the kidneys were found in every respect natural, except "from their seeming, like the other abdominal viscera, totally devoid of blood;" yet during the previous *five years* the urine had at various periods been found coagulable by heat and acids. The medical attendant's persuasion, shared in by all who had seen the case, that his patient laboured under special renal disease seems a fair guarantee of his having examined the kidneys with all necessary care.‡

M. A. Toulmouche has swelled the list of such facts by the relation (*Gaz. Médicale*, Fev. 1839), of a case of phthisis, attended with chronic peritonitis and ulcerations in the intestines, wherein the urine furnished a thick stratum of albumen, when treated in the usual manner, though on the death of the patient the kidneys were found "of small size, pale, and perfectly healthy."

Much has been written on the connexion between dropsies and albuminous urine, especially with a view of proving the latter a dependence on the former. Attempts have been made by Cruickshank and Dr. Blackall to show that albuminuria exists only in the form of dropsy unconnected with organic disease, and hence to establish a method of diagnosticating the two kinds of serous effusion. It is needless to dwell on the fallacy of this view, the converse of which would be nearer the truth. That coexisting albuminous impregnation of the urine and dropsical effusion stand to each other in the relation of effect and cause may be doubted, for the following reasons: 1. Coagulable urine is voided in cases where no dropsy exists. 2. When dropsy disappears under the influence of diuretics, the urine does not therefore become coagulable. 3. No cases of dropsy occurring in subjects proved to be free from organic disease or a morbid condition of the blood, and in which the urine has been found albuminous, are on record.

Such seems to be a tolerably accurate enumeration of the various conditions under which albuminuria has been observed. From the facts related or referred to, the subjoined propositions immediately derive;

1. To infer the existence of a special lesion of the kidneys from the mere presence of albuminuria, is utterly incorrect.
2. Consequently, boiling the urine of all the inmates of an hospital, according

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* Cyc. Prac. Med.—Art. "Dropsy."

† Gaz. Med., vol. v., p. 609.

‡ Dublin Med. Jour., No. xxxvi., 1838.

to the plan of certain observers, in order to determine the frequency of Bright's disease, is liable to lead to false deductions.

3. It will be necessary for future observers to specify the condition of their patients in respect of all the agencies presumed to give rise to a discharge of albumen with the urine, in order to entitle them to refer its appearance, indisputably to any one of those agencies rather than another.

4. The characters of the albuminous precipitate itself, as well as those of the urine containing it, must be much more carefully noted than has hitherto been habitually done.

M. Rayer terminates a very lucid inquiry into the authenticity of cases, reported as examples of the discharge of milky urine, by a number of propositions which we condense as follows: The existence of *naturally milky* urine, at present rests on the mere testimony of authors, never having been proved by rigorous experiment; the only legitimate inference, from cases hitherto published, is that the presence of an abundance of fatty matter in the urine will give that fluid a lactiform appearance; casein and the true milk globule, the only incontestable evidences of the presence of milk, have never yet been recognised in urine, unless in cases where the two fluids had been artifically mixed. Dr. Aldridge's case, as reported by Dr. Graves, and faithfully translated in the pages before us, is inconclusive, according to M. Rayer, of the fact it is adduced to prove; because, though Dr. Aldridge states his having detected casein, he leaves us in the dark as to the method he employed in his search for it, and does not describe its characters with accuracy. Dr. Graves will, we doubt not, see the reasonableness of M. Rayer's demurrer, and probably induce his friend, provided accurate note was made of them at the time of their performance, to give his experiments publicity.

M. Rayer admits that the material of the bile pass into the urine in various affections of the liver, and in all diseases attended with mechanical obstruction to the flow of the hepatic secretion; to these M. Solon adds the "occurrence of the disordered state of secretion, known by the ancients as the *bilious state*." Nearly forty pages of the latter gentleman's book are occupied, with an inquiry into this subject, whereon he appears to fancy himself much more of an original observer than he really is. The whole doctrine was distinctly stated by our most sagacious countryman, Dr. Cruickshank, in his additions to Dr. Rollo's work: "In jaundice," he says, "the state of the disease may be ascertained by examining the urine, in which a very small quantity of bile may be detected by the nitric or muriatic acids," &c., &c.

M. Rayer has recognised the peculiar action of ammonia on pus, whereby it converts that fluid into a ropy, slimy matter, varying in consistence with the quantity of alkali present. He is induced to believe that the ropy matter, detected in certain specimens of urine, such as those voided in chronic cystitis, &c., is not secreted in that state; an opinion which rests on his having repeatedly followed the conversion of pus in acid urine into a ropy, "catarrhal" matter, in proportion as an alkaline reaction was established by the development of ammonia. Our readers will here discover the confirmation of Dr. Babington's ingenious researches in the same direction: their accuracy is further attested by Dr. Bright, who "has at this time under his care, a lady, labouring under copious purulent discharge from the kidney, which, on one or two occasions, has been passed in the form of mucus, owing to the administration of alkaline remedies."

If a drop of acid urine, rendered turbid by impregnation with pus, be submitted to microscopic inspection, immediately after emission, and before the foreign fluid has had time to gravitate to the bottom, a vast number of globules are detected. These are regular and spheroidal, measure about one-hundredth of a millimeter,* have a well-defined border, a semitransparent white surface, and a granular appearance, owing to the presence of a number of minute grayish granules in their substance. The changes these globules undergo, by the progress of putrefaction, are well described; but we regret to find the announcement already made by M. Donné, confirmed by M. Rayer, to the effect that no distinctive character between these and mucous globules is detected with the microscope. If not by their globule, these fluids are, according to our author, otherwise distinguishable; pus or muco-pus contains albumen and fatty matter, mucus does not The presence or absence of pus or muco-pus in a fluid of doubtful character may be, therefore, easily ascertained by the action of nitric acid, heat, and ether.

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* The millimeter is equal 0·039370 of an English inch.

From the very comprehensive details that follow on the passage of medicinal agents into the urine, on the nebulæ, sediments, and cremors of that fluid, and on the phenomena of its putrefaction, we have room but for one or two extracts. It appears as we have already mentioned, from the researches of M. Quevenne, that a formation of *blackish globules* takes place in acid urine, presenting an amorphous sediment shortly after emission, from the third to the twentieth day after that process. They are composed of superlithates, ordinarily of ammonia, measure one-hundredth of a millimeter in diameter, and are frequently mixed with crystals of neutral ammoniacal phosphate of magnesia. When urine of this description grows alkaline, a new species of globules makes its appearance; these are white and *organic*, of new formation, and measure only $\frac{1}{1200}$ of a millimeter in diameter; the lithates very rarely assume the globular form in alkaline urine. A third sort of globule has been detected in the sediment of diabetic urine by the same experimenter; this, from his description, appears to be identical with the ordinary *yeast-globule.*

In his chapter on the relations presumed to exist between certain morbid conditions of the urine and those of the blood, and other fluids, M. Rayer has given a luminous statement of the whole fund of knowledge as yet accumulated on this most important topic: we shall in due season avail ourselves of its most practical matter.

In examining the body of our author's work, our attention is first arrested by the section on mechanical lesions of the renal organs, under which head are comprehended *wounds*, *concussions*, *contusions*, and *lacerations*. The general impression derived from an attentive study of the facts, narrated in this division of the book, is the exceeding difficulty of forming an estimate, immediately on the occurrence of the accident, of the probable results of the injury sustained by the kidneys; cases have gone on in the most favourable manner for weeks even, and at the end of that time terminated fatally in a few days by the renewal of internal hemorrhage. The practitioner acquainted with the nature of previous experience in such cases will, therefore, be cautious in his prognosis to a degree that may appear extravagant to an ill-informed man. On the other hand, recovery has occasionally occurred where the most sanguine might well have despaired; of this abundant proof is given by the remarkable case, published by our countryman, Hennen, wherein complete restoration to health followed the discharge of a piece of cloth by the urethra, eight months after a gunshot-wound in the loins. M. Rayer, indeed, seems of opinion that the severity of these cases does not so much depend on the lesion of the kidney, *per se*, (except when the pelvis, calices, or renal vessels are wounded,) as on the accompanying injury done to neighbouring parts, such as the intestine, peritoneum, &c. This position is founded on a fallacious application of the results of experiments on the lower animals to the human subject:* the cases related in his pages prove it to be untenable, though we admit they show that, with the proviso stated, these injuries are on the whole less dangerous, perhaps, than is currently believed. Those which prove most quickly fatal affect the renal vessels.

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* As Professor Marjolin very justly observes, Dict. de Med., i. 158, were we to judge from experiments on the lower animals, wounds of the peritoneum itself must be looked on as almost unattended with danger. But the truth is, that any absurdity may be quasi proved by a clever use of analogical argument. Voltaire in his inimitable tale *Micromegas*, makes one of the *dramatis personæ* assert that the planet Mars is provided with *two moons*. In anticipating arguments against so notoriously false an assertion, he refers the incredulous to those who reason from analogy, as to persons who will prove the thing as clearly as that two and two make four: he but justly ridicules the pretensions of such sophists. What then shall we say of the cruelties of M. Magendie, of the pertinacious enthusiasm with which he strives to foist on us the results of his complicated tortures of dogs, pigeons, and guinea-pigs as invariably applicable to the phenomena of the human system? What too of the wretched vanity that instigates him to repeat in public, over and over again, year after year, experiments which he himself assures us have, Heaven knows how long, been proved to be conclusive of anything and everything he likes? What of the humanizing influence such unjustifiable proceedings must exercise on the youths who witness them?

Here is a statement which if not new is yet sufficiently important to excuse repetition: "discharge of blood by the urethra, and pain in the region of the kidney, following an injury in the loins, are not infallible signs of a wound of the viscus in question, *unless the hemorrhage follow the injury almost immediately.* Traumatic inflammation of the lumbar muscles and cellular membrane may excite such inflammation of the kidney as shall in its turn cause the pain and hæmaturia alluded to. The diagnosis will be clear, if urine, or a fluid impregnated therewith, escape by the external opening." (p. 249.) On the other hand, in cases of contusion at least, the cortical substance has been superficially wounded without a drop of blood being discharged by the urethra: this is easily comprehensible. Lacerations of this kind, indeed, appear to be quite as curable as simple ecchymoses; an effusion of blood or coagulable lymph between the edges of the solution of continuity prevents the extravasation of urine, and subsequently effects cicatrization. This is well illustrated in our author's first plate.

M. Rayer's experience is confirmative of a most interesting announcement respecting the etiology of calculus made some years past by Mr. Earle;[*] he has found that traumatic lesions of the kidney predispose to calculous affections, and especially to certain forms of gravel. The occasional recurrence of dull local pain in the lumbar region after such injuries, even though it appear only at distant intervals, and last on each occasion for an extremely short time, appears to indicate, with some certainty, this unfortunate tendency. The inference from this is that his medical attendant should never lose sight, if possible, of a patient who has suffered renal injury, nor fail to combat energetically the slightest symptoms which may be traced to the temporary manifestation of an habitually latent inflammation.

There is nothing novel in the mode of treatment recommended for these accidents; this is as it should be, inasmuch as M. Rayer seems to have had no personal experience of them in their early stages. We can, nevertheless, recommend this chapter as one to which, from the excellence of its arrangements and abundance of its borrowed facts, the practitioner may refer, on an emergency, with almost complete certainty of finding the information he requires.

Passing on to inflammatory diseases of the kidneys, our author commences by dividing these affections into three groups, according to the tissue they immediately occupy; each of these groups is subdivided into a certain number of species, distinguishable from each other, either by the cause producing them or by some particular symptomatic character in the malady. Here is the classification.

1. Nephritis. Inflammation of the cortical or tubular substances.	1. *Simple.* 2. *Produced by morbid poisons.* 3. *Arthritic, i.e. Gouty and Rheumatismal.* 4. *Albuminous.*
2. Pyelitis. Inflammation of the pelvis and calices.	1. *Simple.* 2. *Blennorrhagic.* 3. *Calculous.* 4. *Verminous.*
3. Perinephritis. Inflammation of the external cellular and fibrous membranes of the kidneys, or of their investing adipose cellular tissue.	
4. Pyelonephritis. A combination of Nos. 1 and 2.	

That the anatomical distinctions, assumed to exist between renal inflammations by this arrangement, are really to be found in nature, the subsequent pages even of the present volume very fully show; it is most gratifying to discover in this separation of nearly similar disorders, decided evidence of increased accuracy of knowledge of renal disease, and we are willing to wait patiently for the labours of future observers to point out how these different local states, for this M. Rayer has failed to do, are in all cases to be symptomatically distinguished.

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[*] Med. Chir. Trans., xi. 211.

As to the four species of the first group, Nephritis, these, when fully developed, differ from each other in respect of their symptoms and anatomical characters, while they all agree in commencing by partial or general hyperæmia. Thus we are told, in respect of the organic changes induced by each, that deposition of pus is a frequent termination of the simple variety; that accumulation of plastic lymph or lithic acid, in the cortical substance or mammillæ, is very often remarked in the arthritic species; that gangrene more particularly characterizes the form of the disease produced by "infection;" and that the most ordinary appearances in the albuminous variety are anæmia, consecutive to hyperæmia, increase in size and weight of the affected organs, and milky spots or granulations. Induration and discoloration are common to all the species except the third. To the general correctness of this statement, no serious objection can, we believe, be offered; but as we proceed, it will be found that here, as elsewhere, nature transgresses the limits set her by artificial separations.

The remainder of the present volume is devoted to the history of the subdivision *simple nephritis* alone, illustrated by 104 reported cases, of which 53 are original, and 51 selected from various authors, of very questionable scientific reputation in the majority of instances. To such analysis of this vast chapter (it contains upwards of 300 pages), as our space will permit, we at once proceed.

Mechanical agencies hold a prominent place among the causes of nephritis, as admitted by M. Rayer: of these two distinct kinds may be enumerated, wounds and analogous injuries, and the irritation of foreign bodies, such as calculi, worms, or urine abnormally retained in its excretory passages, and more especially in the pelvis of the kidney. From this it follows that all morbid states, inducing such retention, are really indirect causes of renal inflammation; thus various affections of the ureters, prostate, urethra, and bladder, displacements and diseases of the uterus, ovaries, rectum, &c., nay, even cerebro-spinal maladies, through the paralysis they immediately, and the retention of urine they mediately occasion, rank among the causes of simple nephritis. And it further follows, that advanced age powerfully predisposes to the complaint, for all the morbid conditions of the genito-urinary organs, &c., that we have named are far most frequent at that period of life. Experience corroborates this inference; the occurrence of simple nephritis in children under seven years of age is exceedingly rare. In all these cases, inflammation of the pelvis precedes that of the substance of the kidneys. Cantharides, nitre, and similar agents, our author is of opinion, very rarely produce the disease: a notion carried still further by Professor Chomel, who doubts that a single unquestionable example of such causation is to be found:* this doctrine, however, we are firmly convinced, and there are cases in our author's volume justifying this conviction, is by much too exclusive. Cold and damp, and the extension of a contiguous inflammation, terminate M. Rayer's catalogue of causes. On the influence of sex he has nothing of a positive kind to offer: the liability to the indirect causes of the complaint seems *à priori* to be pretty closely equal in the two sexes.

Influences which act at once on both kidneys usually excite inflammation in both simultaneously, but the disease may exist in a very different degree in the two organs. Again, when inflammation of one kidney is produced by mechanical agencies acting directly thereon, a temporary influence on the opposite organ is clearly manifested in the majority of cases by a material diminution or total suppression of the urinary secretion. Further, one organ only inflames in some instances, where the cause (*e. g.*, the irritation of cantharides, cold and damp, &c.) should, to all appearance, act equally on both: in this fact we recognise a further illustration of the unfrequency of coexisting inflammation in symmetrical organs, which observation has established to be one of the general laws of inflammatory action.

We turned with very considerable anxiety to the symptomatology of acute nephritis; but we must confess that the results obtained by our author do not, by the new light they throw on its diagnosis, respond to the high estimate we had formed of their probable importance. Before the publication of this volume, it was fair to ascribe our imperfect acquaintance with the symptoms of nephritis to the fact that no observer had methodically and earnestly entered upon the investigation of this and cognate diseases; we are now constrained to admit that there must be some inherent difficulty attached to their study.

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* Arch. Gen. de Med., Jan. 1837.

Respecting the rigors and febrile reaction of invasion, we are told nothing of much importance: the former are prbnounced to occur in every case without exception, a statement which we are persuaded is incorrect. (Vide M. Chomel's paper.) The characters ascribed to the pain in nephritis are these: it may be superficial or deep seated; limited to a small or spread over a large surface; so intense as to be materially aggravated by the slightest touch, or so obscure that forcible alternate pressure on both kidneys is requisite to show which is affected; increased by movements of the trunk, and occasionally by decumbiture on the affected side and by the heat of the bed; remittent; rarely pulsatile (this is, on the contrary, an ordinary character of the pain in perinephritis), and irradiating upwards to the diaphragm, or downwards to the bladder, groin, and testicle, or uterus and round ligament in the female. The bladder, strangely enough, is sometimes the principal if not the sole seat of the pain, in cases wherein that viscus is found to be in an almost perfectly healthy state after death, while the kidneys are seen to be profoundly disorganized; this peculiarity was long since noticed by Morgagni. Painful retraction of the testicle sometimes occurs, but is a more frequent attendant on pyelitis and calculous ureteritis.

M. Rayer's first plate includes an engraving of a kidney so enormously enlarged in the course of acute inflammation (it weighed 17 oz.), that a tumour was detected during life, both by application of the hand and by percussion; with similar cases, however, we must very rarely expect to meet. According to our observer's experience, the temperature of the superjacent skin is not increased, unless there be coexistent perinephritis or extra-renal abscess.

The modifications of the urine in this affection affect its quantity, visible qualities, and composition. The secretion is always diminished in quantity, and sometimes wholly suspended: (M. Rayer says of the latter "*especially* when both kidneys are affected;" we find no instance of such suppression, however, in his narrated cases, except where both organs are diseased.) The urine may be excreted rarely, twice or thrice in the twenty-four hours, or there may be distressing micturition. The chief changes in point of composition are stated to be caused by impregnation with blood or albumen, by diminished acidity, neutral reaction or alkalescence, and occasionally by admixture with pus. It is affirmed in the most distinct manner, that the discharge of saugninolent or albuminous urine is not peculiar to the traumatic variety of nephritis, but it may also occur when the attack proceeds from general causes or diseases of neighbouring parts. Its appearance is accidental and temporary, and may be completely put a stop to —unless when dependent in part on a coexisting affection of the bladder or urethra—by venesection. Now, in true albuminous nephritis (Bright's disease), the presence of albumen in the urine is a constant condition at all its periods; bloodletting will not cause it to disappear, and the quantity of the foreign principle, as well as of the urine voided, is always greater than in the simple variety of the disease: the coagulable excretions of both are hence sufficiently distinguishable.

These statements call for a remark or two. In the first place, the fact of coagulable urine being excreted in simple nephritis, is of such importance as to require numerous well-observed facts for its substantiation: here the onus probandi rested with M. Rayer, but unless assertions, of which he is no niggard, be taken for proofs, he has declined it almost completely; no case of acute nephritis is related in his volume wherein such a phenomena occurred, and three cases of the chronic form (in one of these the urine was purulent, the prostate and pelvis of the kidney diseased—in another there was cystitis and chronic enteritis), are all that have been mustered in its exemplification. But while we reprehend this slovenly omission (for we doubt not M. Rayer has met with many more cases which he considers confirmative of the assertion he has made), we confess ourselves disposed to believe that assertion well founded. When the urine is mixed with pus, or tinged with blood, no doubt can be entertained on the matter; and M. Solon has reported at least three cases of acute and chronic simple nephritis attended with albuminuria: the ground on which this observer distinguishes the chronic case from Bright's disease—namely, the absence of anasarca—is more debateable, however, than he seems to imagine. Secondly, there is an error in M. Rayer's declaration of the constancy of the presence of albumen in all the stages from first to last of Bright's disease; Dr. Bright himself and Dr. Christison have both noted its occasional total disappearance in that disorder. Thirdly, we dissent altogether from the correctness of taking the comparative abundance of urine discharged in Bright's disease as a ground of diagnosis between the two affections; in the acute stage of that disease, the secretion from the kidneys may be scanty, as well as in simple nephritis.

The urine of acute simple nephritis resembles that of Bright's affection by its diminished acidity and lowered proportion of lithic acid and lithates. In the former disease, when chronic, alkalescence is more common and more persistent than in the latter; but the decrease in the proportion of the salts is least marked in the former.

The colour of the urine varies according as it contains blood, pus, mucus, &c.; it is usually pale when the disease is at its maximum (and not of the traumatic species), as it is then rarely impregnated with blood, and but slightly charged with lithic acid and colouring matter. M. Rayer makes an important rectification of the prevalent opinion that purulent urine is among the consequences of suppuration in the substance of the kidney: such condition of the fluid is on the contrary the ordinary effect of complication with inflammation of the mucous coat of the excretory passages. He has discovered depositions of pus in the cortical substance after death in cases wherein the absence of pus from the urine had been repeatedly established during life; and he denies that purulent impregnation ever depends on the presence of pus in the kidney, unless there be a direct communication between an abscess and the pelvis of the organ, or an ulcerative inflammation of the mammillæ.

Nothing is said of the density of the urine in the general description of the complaint; but, on referring to the table of specific gravities already adverted to, we find 1011.9 and 1015.6 noted as the mean result of five examinations in two subjects. The fluid was alkaline in these cases.

In the account of the general symptoms and local disorders affecting other organs in the course of the disease, we perceive nothing strikingly novel. Four forms of the malady, differing from each other in the general character of the symptoms, are enumerated; the *acute benignant*, the *inflammatory*, that in which *ischuria and cerebral symptoms* predominate, and a fourth remarkable by the tendency it manifests to *malignity and putrescence.*

M. Rayer prefaces his history of chronic nephritis by affirming that the symptoms of that affection have not yet been correctly laid down; pathologists having according to him fallen into a grievous error in ascribing the habitual excretion of purulent urine and the development of a tumour in the loins—which are in truth symptoms of chronic pyelitis—to chronic inflammation of the substance of the kidneys. If we are to trust his experience, "habitual pain in one or both renal regions, coexisting with diminished acidity, neutral reaction, or more especially alkalescence of the urine, and a sensation of weakness and numbness in the lower extremities" constitute the principal characters of chronic nephritis. But the confidence which this plain statement gives of encountering but little difficulty in the diagnosis of the affection is materially weakened by the subjoined qualification, that we are not justified even in suscepting the existence of the disease in many cases (*latent nephritis*) unless on the evidence of a most minute examination of the urine.

The major position M. Rayer seeks to establish respecting this disease, is that it exercises vast influence on the generation of phosphatic calculi. The urinary sediment in chronic nephritis, when the fluid itself is alkaline, is either amorphous and composed almost wholly of phosphate of lime, or chiefly constituted by crystals of ammoniacal phosphate of magnesia; or as most commonly happens, both these salts are held in suspension together with globules of mucus and a small quantity of lithates. The contents of the bladder are in ordinary cases excreted frequently and in small quantities at a time. Impregnation with blood or albumen is rare in the uncomplicated disease, with mucus frequent, with pus indicative of inflammation of the mucous membrane of the passages.

There is no fever, but the disease is attended with progressive emaciation, and a general cachectic state which, as M. Rayer declares, favours the development, among other morbid conditions, of pulmonary tubercularization. This may be true; but we must confess we shall wait for some more convincing proofs of a point so difficult of demonstration, than a mere assertion, before we allow that it may not be false.

The diagnosis of this affection is occasionally confirmed by the excellent effects of local antiphlogistic measures: the renal pain, and the turbidity and alkalinity of the urine not unfreqnently disappear altogether for a while after cupping in the loins.

It is plain that one of the most common and important varieties of what has been termed the "phosphatic diathesis" is portrayed in the preceding sketch. It has indeed long been known—and English writers were the first to advocate the notion—that injuries of the loins, and such diseases of the urinary passages as require instrumental treatment, induce the excretion of phosphatic salts with the urine. But these conditions are only its indirect cause,—the chronic nephritis, which they directly excite, has not, so fas as we are aware, been yet put forward otherwise than vaguely and incidentally as a condition entailing an accumulation of phosphates in the urine.* On the other hand, it must be distinctly understood, as M. Rayer himself declares, that sensibility under pressure, which is the only symptom localizing the disease in the kidney, may be absent while all the other morbid phenomena of the phosphatic diathesis wear out the constitution of the patient; whether they are in such cases dependent on functional derangement of the kidneys only, or on latent chronic nephritis, can only be safely determined by post-mortem examination, and our author has as yet had no opportunity of appealing to its decision.

The anatomical characters of acute and chronic nephritis are next treated of, each receiving most beautiful and accurate illustration in the accompanying plates. We shall content ourselves for the present with enumerating them with all possible conciseness, as it will save repetition to reserve our more careful examination of them for another article. In the acute form, then, they are;—1. General or partial increase of size, according to the extent of the inflammation. 2. Various forms of injection, superficial and deep seated; visible with the naked eye, or requiring some slight magnifying power for discovery. 3. Red or anæmic induration of the two substances, coexisting with increasing weight and size; both states of coloration may be present in different parts of the same organ—a maculated appearance is the result. 4. Collections of pus, especially in the cortical substance; infiltration with the same fluid; ulceration of the mammillæ. 5. Gangrene (extremely rare). 6. Deposition of discoloured fibrin instead of pus (in the traumatic variety).

When the disease has reached the chronic stage, the following are its anatomical characteristics: 1. Diminished size of the kidney, if the affection be general; hypertrophy is, however occasionally observed; increased weight and hardness of tissue. 2. Granulated, rough or tuberculated exterior. 3. Red injection (possibly the result of an acute attack immediately before death). 4. Anæmia, partial or general, ordinarily attended with augmented density, and in many cases with hyperæmia; 5. A peculiar species of atrophy, of which one of the most remarkable characters consists in the appearance of cicatrices on the outer surface of the organ. 6. Ulceration of or purulent collections in the mammillæ.

Their investing membranes frequently participate in the inflammation affecting the organ themselves—their vessels rarely.

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* A fact seeming to illustrate very clearly the influence of chronic nephritis on phosphatic urine is that lithic acid calculi (when they remain for any length of time in the passages) become encrusted with a layer of phosphatic salt, and this, in spite of the constitutional tendency to lithic secretion. The irritation of the foreign body excites inflammation of the kidneys, and this in its turn the production of phosphatic urine.

We cannot tarry with M. Rayer's interesting remarks on diagnosis and prognosis, further than to state, that although, as we have already declared, his results on the former topic do not quite realize our expectations, the reader will derive solid instruction from their careful study. In the section on treatment, as was naturally to be apprehended, there is nothing remarkable for novelty in the general plan advised : but there is a sufficient share of practical importance in some of the particular details. Thus we are warned that in puerperal women nephritis has a marked tendency to terminate in suppuration ; and that, notwithstanding the state of fatigue and weakness in which the function just performed may have left the patient, the lancet must be vigorously employed, more especially as the inflammation may have existed for some days when first recognised ; the lumbar pain it induces may be readily mistaken for a natural consequence of labour.

M. Rayer believes that the best mode of preventing the occurrence of nephritis as a consequence of retention of urine produced by urinary or cerebral diseases, consists in evacuating the bladder carefully from time to time, and in *not* leaving a catheter constantly in the organ. We are glad to have an opportunity of recording so positive an opinion respecting the impropriety of employing the *sonde à demeure*, especially as it emanates from a practitioner of such repute as M. Rayer. When nephritis is induced by stricture of the urethra or prostatic disease, whereby the performance of catheterism is notably interfered with, leeches will be much more beneficially applied to the perinæum than to the loins.

Our author raises his voice against the exhibition of the mineral acids in cases of chronic nephritis with alkaline urine. We perfectly coincide with him in looking on their exhibition, whether as chemical reagents or as general tonics, as of most doubtful utility ; they rarely succeed in altering with any persistency the constitution of the urine;* and the system at large almost invariably suffers from the gastric derangement they are so prone to induce. In these cases M. Rayer has directly and indirectly ascertained the excellent effects of nutritious and succulent diet, especially of the *animal* kind. Like all his predecessors, he recommends opium for mitigating the tortures of micturition ; the drug may be administered as an enema, a suppository, or by inunction, when its exhibition by the mouth is contraindicated : the frequent use of the emollient hip-bath is an excellent adjuvant to opiates.

The cases of acute and chronic nephritis related from the author's own experience, which occupy the remainder of the volume, constitute in our minds its essentially valuable part. They illustrate the obscure points in the history of the disease ; they prove how erroneous is the opinion held by even some of the first pathologists of the day respecting its rarity ; they exemplify the action of the various causes of the affection ; mark out its relations to other disorders, and prove the modifications its symptoms undergo from the presence or absence of certain physiological conditions, such as pregnancy : each category of cases is enhanced in value by a luminous commentary.

Our article has already extended to such length that we are unable to do more than thus state the nature of the information contained in the closing section of the work : this we can scarcely regret, however, for nothing but an intimate acquaintance therewith—very different from that obtainable even from a close analysis—will enable the student of renal pathology to estimate justly its important bearing on the practical history of the affection.

Of the fasciculi of magnificent plates acompanying the work, it is impossible to speak in terms too strongly encomiastic; both as delineations of morbid changes, and as works of art, they are truly admirable. To the volume we have reviewed are besides appended six engraved plates representing the microscopical appearances of various constituents of the urine, of albuminous lamellæ, of the globules of pus, mucus, and milk, &c. ; these are really very convenient for reference, and illustrate excellently well the utility of this mode of studying organic products.

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* Berzelius has published a very instructive case illustrative of their failure in this respect.

The appearance of M. Rayer's second volume will be the signal for our resuming the subject of renal diseases.

Addendum. Since these pages were sent to press, we have been very kindly favoured by M. Solon with a communication respecting some further researches which he has instituted on the subject of critical urine. Circumstances have as yet prevented him from publishing the particulars of these additional inquiries; we are now enabled to lay their result before our readers.

"The albuminous urine occasionally, and as it were, accidentally, observed during the progress of acute affections, is *not critical.* The presence of albumen in these cases depends either, as Drs. Gregory and Christison presumed, on a morbid state of the kidneys or bladder, on sanguineous exudation, or on a temporary modification of secretion. On the contrary, the urine which I have designated as simply *precipitable*, in contradistinction to that *coagulable by heat*, really announces by its appearance the solution of acute affections. It results from an examination of about 150 cases, that a critical precipitate is obtainable by nitric acid in seven out of every ten instances. When it presents itself, in the course of an acute disorder, in the form of a transverse disk of flocculent appearance, and four or five lines thick, the practitioner may rest satisfied of the approaching establishment of convalescence. This peculiar condition subsists one, two, or three days; subsequently the urine increases in density and usually becomes colourless; finally it gradually reassumes its normal characters."

Hence it appears that our unwillingness to abide by M. Solon's affirmation of the *critical* character of albuminuria, when occurring in acute diseases, has been fully justified by the event of further and unbiassed investigation. That it was unbiassed is proved by the result; the honorable candor evinced by M. Solon in thus unreservedly publishing his own refutation redounds infinitely to his credit.

Dr. Christison may have at one period held the opinion ascribed to him by M. Solon, but the observations on the subject in his present volume (p. 40), acquiescing as they do in the views originally adopted by the French writer, prove him to have since relinquished it.

PRACTICAL REMARKS ON MUCOUS PAPULES.

BY WILLIAM POWER, M.D., OF BALTIMORE.

[From the Maryland Medical and Surgical Journal, No. I.]

This form of syphilitic sore or production, is one that presents itself with peculiar interest to the practitioner, not only in a therapeutical point of view, but also from the remarkable place it holds in the scale of symptoms of this Protean disease. It has received in France the names of mucous pustule—*pustule plate*, *pustule humide*, *tubercule muqueux*, *papule muqueuse*, and is by most late French writers well described, occupying a prominent place in their natural history of the disease. It has not been so clearly pointed out by the English syphilographes,—appears to be badly understood by them, being classed under the general head of warts or vegetations (condylomata)—ranked as a mere ordinary consecutive result of a virulent infection,—no distinction drawn by many between it and venereal warts properly so called, and by some not even separated from the vegetations which succeed to gonorrhœa, though they are essentially different from it both in march and treatment, and other more important characters, which in the sequel of this paper, will be pointed out. Evans, in his excellent memoir on ulceration of the genital organs, evidently confounds this symptom with that form of chancre which he terms *ulcus elevatum.* Carmichael would seem to comprehend it in his description of the *ulcus superficialis.* Later writers have fallen into the same error, which indeed is not surprising, as in many cases it is exceedingly difficult to draw a diagnostic line between a chancre undergoing a vicious process of reparation with exuberant granulations, and the mucous papule; chancres changing in certain cases into mucous papules, bring a conversion of primary into secondary symptoms *in loco.* It is the fact of this change being the first evidence of a general infection of the economy, that gives to the mucous papule its importance; its occupying, as it were, a medium place between primary and secondary symptoms—sometimes to be regarded as the one, sometimes as the other, though more generally the latter, particularly when it shows itself on other parts of the body than the genital organs. It is its occurrence on other parts of the body, identically the same in physical characters and progress, though for the most part different in its origin and mode of appearance, requiring the same therapeutical indications as when seated on the genitals, that has escaped the notice of most of our own writers on syphilis. To endeavour to elucidate this point, and to make known a treatment which we have opposed to this symptom with great success, is the object of this paper. But, before we speak further of the peculiarities of this symptom, we will describe what we mean by the mucous papule.

The mucous papule, (for by this name we shall designate this lesion,) is that form of sore in which the base is constantly higher than the edges, generally of a pale rose colour, though sometimes assuming the deepest red tinge; its surface clean and smooth, or at most slightly covered with a whitish lymphy deposition, with some crusts of matter along its edges; secreting a thin, irritating, whitish, and strongly odorous discharge. This odour is so peculiar, that to one who has been accustomed to see this form of disease frequently, it alone is sufficient to indicate its existence. The surface is from an eighth to a sixteenth of an inch higher than the surrounding skin, and the sore is from the sixth of an inch to an inch or more in diameter, pretty regularly rounded. Their ordinary seat is the inner face of the labia majora, at the junction of the mucous membrane with the skin—on the glans penis, the inner face of the prepuce, in the neighbourhood of the anus—on the nipple of nurses suckling infected children—the angles of the mouth, or the buccal mucous membrane of these latter. They sometimes appear on the skin of the penis, upon the external surface of the labia majora—in the fold of the groin, the upper and inner part of the thigh, and on the scrotum. Usually they are few in number, though in some cases they are grouped together in immense quantity, without losing their original and distinctive characteristics, while they disfigure very much the parts upon which they may be seated, particularly the labia, and increase their size; and from the irritation to which they give rise, cause a secretion of lymph to take place in the interstitial cellular tissue of these organs, creating a genuine hypertrophy. Persons who are cleanly in their habits never present them in this exaggerated quantity. It is among the lowest prostitutes, and negroes particularly, who are notoriously deficient in habits of personal cleanliness, that they are thus propagated from point to point, until sometimes the whole of the external parts of generation, the thighs, and perineum are converted into one secreting surface, pouring out a product in the highest degree offensive. It is for this reason, doubtless, (their inattention to cleanliness,) that I have met with them so much more frequently in negroes than whites—in women more than men; and among whites, those with thin delicate skins, red hair, and whose perspiration is habitually odorous, have appeared to me more predisposed to them than others. They are much more common in hospital than private practice, for it is upon the filthy and abandoned that they fix by preference.

In some cases, like the chancre, these papules appear from six to eight days after an impure connexion; sometimes not until the lapse of fifteen or twenty, presenting their papular character from the commencement, and appearing to be a morbid growth of mucous membrane or of the skin of the affected part, springing immediately from a venereal infection. In other cases, and much more frequently, they owe their existence to a different process. It is when they are preceded by a chancre, which, after passing through its ulcerative stage, without having been submitted to a proper treatment, commences a vicious process of reparation, the granulations become fungous and exuberant, sprout up from the base, the diameter of the sore increases, the surface assumes a flat smooth aspect, and no longer secreting pus, pours out the fetid discharge already spoken of, and becomes a true humid or mucous papule. This is the singular character of this sore, that it undergoes a complete transformation *in situ;* is *a symptom of transition from primary to secondary symptoms:* indicates the presence of the venereal infection in the general economy, and yet loses that which is the specific character of chancre—its power of being propagated by inoculation.

Such is the history of the mucous pustule, looked upon as a primary symptom; but there is yet another mode by which it may be generated, and in which it frequently presents itself, having *all* the characters of those we have already described: being identically the same disease, yet formed in a different manner; which is by the gradual change of the lenticular syphilitic eruption, (that most common of all secondary appearances,) on those parts of the skin which are habitually moistened by the natural secretions, which are soft, and approximate somewhat more than the general integument, to the condition of a mucous membrane, as in the fold of the groin, the rugæ of the scrotum, the axilla, the mamma, &c., &c. Here, these lenticular rosy or copper-coloured spots, instead of being mere elevations, slightly raised above the skin as they are elsewhere, hard, covered with a dry crust or furfuraceous deposit, acquire on the contrary a greater development, extend in size, become elevated one or two lines above the surrounding skin—their surface becomes moist, and, taking on the character of a secreting membrane, pours out the same thin, fetid secretion that we have mentioned as characterizing it in those cases where it arose primarily. In this case there is no question as to its being truly a secondary symptom, proceeding from a general infection, and in no manner communicated by direct contact.

Thus, then, we have traced the various origin and growth of the humid papule, which, as we have seen, may be either a primary symptom, engendered immediately from an impure connexion, and constituting by itself the sole symptom of the disease—or, it may arise from a true chancre, degenerating from improper treatment in a lymphatic constitution, and from want of care, into this form of symptom—betraying to the practitioner that the economy is already poisoned by the infection; or, in the third place, it may show itself as a degenerated form of the common secondary eruption, taking place on those parts of the body where the peculiar humid character of the skin approximates it to the nature and functions of a mucous membrane. In all three cases presenting the same physical characters, and possessing the property of being propagated in its own kind, or in the form of chancre, by *vital contact*, as in the intercourse of the sexes, the suckling of children at the nipple, &c., and yet the secretion, inoculated by the lancet, produces no appreciable result—a fact which separates it widely from both true primary and secondary symptoms; the first, that is, true chancre, in every case where the inoculation is performed under proper circumstances, viz., (where the pus is taken from a chancre still in its ulcerative stage,) producing a chancrous pustule, presenting all the characters of a syphilitic sore, and this sore, being in its turn, susceptible of indefinite propagation by the same process, as satisfactorily proved by the experiments of Bell, Hunter, Cullerier, Tongue, Evans, Percy, Ricord,[*] &c. The secondary symptoms, as proved by the same experimenters, not possessing this character, but only transmissible hereditarily from parent to child, neither propagated by inoculation or by contact—while the mucous papule holds, as we have before said, a sort of middle ground, not transmissible by inoculation, yet capable of being propagated by prolonged vital contact of one part with another, as the genital organs, the lips, nipple, &c., giving rise sometimes to true chancre, but most frequently to a papule *sui generis.*

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[*] NOTE.—This last named physician, at the *Hopital du Midi*, charged with a service of one hundred and fifty beds, has for several years past devoted himself to inoculating experimentally, in all the different phases of the venereal disease. His experiments, in all amount to several thousands, and he has established by direct proof, and triumphantly, the inoculability of chancre alone, of all the venereal symptoms. In the admirable work which he has lately published, and in which he has laid before the profession the result of these, his laborious investigations, he has thrown more light, precision, and system, into the study of syphilitic diseases, than any writer since the days of Hunter. It was in his wards, during nine months, that I made most of the observations upon which this paper is founded, so far as the natural history or pathology of the disease is concerned. M. Ricord, studying anew the disease for himself, without any reference to what his predecessors had done, not contenting himself with adopting received notions, and following a blind routine, but

M. Ricord in his late work, seems to think that in every instance where this symptom is thus propagated, there is the remains of a true chancre, secreting inoculable pus—that in women and children, where we most frequently meet it, it is only a degenerated chancre, which the patient, from the nature of the parts, has not taken notice of; and therefore, that it ought always to be ranged as a secondary symptom, possessing all the properties common to the latter, and transmissible only hereditarily. This manner of viewing the question, however, our own observations will not permit us to adopt. Where it is transmitted from the nipple to the angle of the mouth or the buccal mucous membrane, it is evidently a transmission in kind, without any previous development of chancre. And in cases where, a week after a suspicious connexion, this symptom has presented itself to us well characterized on the glands, there is no possibility of admitting that a chancre could have run through its ulcerative stage so soon. Moreover, in cases where, from want of proper cleanliness, they appear on the thighs, labia, or scrotum, the physician may see them from the contact of irritating matter growing up under his eyes, without any trace of previous characteristic ulceration.

This symptom, if not properly treated, is almost unlimited in its duration, as we have seen, propagating itself from point to point with a remarkable tendency to increase. Subjected to the ordinary venereal treatments, it is very obstinate, lasting from thirty to ninety days, and even longer. The mouth may be touched again and again, without materially affecting its march—chancres which may exist in its immediate neighbourhood becoming completely cicatrized, while it remains stationary or even increases. The tisues on which it is placed becomes the seat of chronic irritation—thence effusion of lymph with hypertrophy of structure, and induration. In fact, it shows no tendency to improve under the simple use of general means, and all writers who have spoken of it, recommend the combination of some local treatment, generally of an escharotic character. In this view, powdering with dry calomel; dressings of a cerate composed of calomel and opium; the black and yellow washes; sulphate of copper; lapis calaminaris; alum; nitric acid and the nitrate of silver have all been recommended, and each found warm advocates. These substances are all useful, but are slow in their operation, and not unfrequently fail of producing the desired end. Even the knife or scissors are subject to the same reproach, and the practitioner, after subjecting his patient to the pain caused by excision, will often be mortified to find, after a few days, the whole excised surface sprouting up and re-assuming its original appearance. It was the annoying experience of the frequent failure of these means, while I had charge of the female department of the Baltimore Alms-house, where almost every negro affected at all with syphilis presents this form of morbid production, and not unfrequently the whites, that made it desirable to find some means more certain in its operation, more efficacious and more speedy, which might shorten the actual duration of the disease, and relieve us from the dread of finding it reproduced a week or two after it was supposed to be effectually controlled. We experimented upon the comparative virtues of various local applications, and the result has been, that an immense superiority is to be attributed to the *nitrate acide de mercure*, of the French formularies. It proving in every case, where fairly tried, almost a specific; acting rapidly and efficiently, and giving us in no instance a relapse.

The *nitr-ac-de-mercure* is a caustic, which has been for a long time used in

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proceeding upon the only true plan of study, that of diligent observation and experiment, has cleared up many points hitherto obscure in the pathology and treatment of syphilitic affections; and Baltimore, his native city, has reason to be proud of this her son, who, by his talents and industry, has obtained the brilliant position he now holds among the medical celebrities of the school of Paris.

sores of a bad character by the French surgeons, particularly those of a cancerous nature. M. Recamier applied it extensively in the treatment of ulcerations of the *cervix uteri*, and by his eulogiums upon its efficacy in his hands, brought it largely into use among his brother practitioners. It has been but little employed either in England or in this country—does not even find a place in our Pharmacopœias, notwithstanding its deserved celebrity among continental physicians. From its happy effects, as observed not only in the disease we have under consideration, but in numerous other cases, it deserves a high place among our therapeutic agents. It is a liquid caustic of great activity, holding a sort of medium rank between the nitrate of silver and caustic potassa: more active and powerful than the former, extending more deeply in its influence: less painful, less potent, and infinitely more manageable than the latter. One peculiar effect I have often noticed to result from its application, is the activity of local circulation to which it appears to give rise—more or less bleeding from the cauterised surface almost always taking place; this characteristic would seem to indicate it as a valuable means in sores of a decidedly sluggish chronic character, and I have more than once experienced benefit from its application in such cases. Its composition is

℞ Deuto-nitr. Hydrarg. ʒi.
Acid Nitric, ℥i.

to be kept in a bottle with a ground glass stopper, and to be applied with a mop of soft linen, or a camel's hair pencil, to the affected parts. From frequent essays made with this and other articles, I am convinced that there is a saving of one-half or more in the time required for the cure of mucous papules. Instead of lasting from thirty to ninety days, as they do under the ordinary treatments, from ten to fifteen is all that is required when this substance is judiciously made use of in combination with other means. To show its value I will relate a few cases selected from among the last year's practice at the Alms-house.

Case I.—Eliza Brown, coloured girl, æt. 22, dissolute in habits, and filthy in person, but enjoying excellent health, contracted syphilis about four months previous to her admission into the house. On examination, a chancre was found seated upon the left nympha—circular, the fourth of an inch in diameter, excavated, with elevated indurated edges, and two smaller ones presenting the same characters at the *fourchette;* all still at the period of ulceration. She was placed upon the usual treatment—pills of Proto-Iod. Hydrarg.—a grain night and morning, with a pint of *decoct-lignor*, daily. The chancres were touched occasionally with the *nitr-argent.* and dressed with lint moistened with black wash: on the 18th day these sores were perfectly healed. Both labia, at the time of her admission, were covered with a crop of mucous papules at the junction of the skin and mucous membrane of the vagina—two large ones in the left groin, nearly an inch each in diameter, and one or two smaller ones on the thighs. These were also well rubbed with the *nitr-argent.* twice a week for six weeks, without any improvement; for they seemed from day to day to enlarge. As their bases were very much elevated and indurated to a certain extent, I used the bistoury—shaved them off on a level with the skin, and then cauterised the bleeding surfaces carefully, with the *nitr-argent.* To my surprise and disappointment, in a week they had attained again nearly their former size, and poured out as profusely as ever, the thin fetid secretion. They were subjected twice to the same mode of treatment, without benefit. She then used mercurial ointment in friction for two weeks—the papules increased every day in extent. Finding them more developed than they had yet been, I ordered them to be touched with the *nitr-ac-de-mercure.* The application gave rise to much pain, but when examined a week afterwards, they were more than one-half reduced in size. They were twice touched, at a week's interval, when she was reported without a trace of disease being visible. In this case the mouth was twice touched during the treatment, but without producing any beneficial effect upon the papules. The proto-ioduret was withdrawn as soon as ptyalism manifested itself, and resumed immediately upon its disappearance. The *decoct-lignor* was constantly persevered in. This case is a fair instance of the obstinate chronicity of this symptom, showing how little it is under the influence of general remedies, and even active local applications. For two months and a half a systematic and rational treatment was constantly kept up, but completely failed. The chancres yielded readily, but the papules increased. It was not until the *nitr-ac-de-mercure* was used, that these showed any disposition to mend. In three weeks it effected a perfect cure. This patient remained for some months in the house, and we had every opportunity of satisfying ourselves that there was no relapse.

CASE II.—Mary Courcy, mulatto, æt. 19, contracted chancres some three months before she entered the house, for which she had already undergone a mercurial treatment, in town. When examined, both labia, from the clitoris to the fourchette, were covered with large mucous papules, exuding a dreadfully offensive discharge. The labia were increased nearly one-half in size—no chancres now visible—a slight muco-purulent discharge from the vagina. She was placed on pills of the Proto-Iod. and *decoct-lignor*, immediately, as her general health and digestion were good. The *nitr-ac-de-mercure* was applied to the papules, and she was reported, the labia entirely reduced in size, the papules cicatrized over, free from every trace of disease, eighteen days from the day of her admission.

CASE III.—Hetty Harman, negro, æt. 22, stout and vigorous frame, intemperate habits, contracted syphilis seven weeks before her entry into the Almshouse—had undergone a partial and irregular treatment under the dictation of an apothecary in the city. The disease never was cured, and she continued to lead a dissolute life up to the moment of her admission, 14th March. On examination she presented both labia studded with mucous papules, projecting at least two lines above the skin's surface, secreting abundantly an acrid, offensive fluid —several smaller ones in the fold between the labia majora and minora, and others, about half a dozen, large as shilling-pieces, in the groins. Two chancres near the fourchette, one granulating its edges on a level with its base, the other excavated, its base covered with a yellowish deposit, still at the period of ulceration. After an emeto-cathartic had been administered to relieve the saburral condition of her prima-viæ, she was placed on the usual pills and decoction. The chancres were touched with *nitr-argent*, the papules with the *nitr-ac-de-merc.* Examined next day, they were found covered with a brownish dry crust, the secretion entirely arrested. Touched a second time, a week from this date, and reported perfectly cured, both of chancres and papules, on the 27th March, fourteen days from her admission. The mouth was not touched in this case, and as she remained six weeks in the house, without anything like a relapse, we are warranted in concluding her perfectly cured.

CASE IV.—Jacob ———, a coloured man, æt. 42, laborer, intemperate in his habits, living in filth and poverty, contracted two chancres on the prepuce, two months and a half before he applied for admission into the house. He had been irregularly treated by a quack in the city. At his entrance, he presented one large papule on the left thigh, two smaller ones on the right, at its upper and inner part, each an inch in diameter—six or seven smaller ones on different parts of the scrotum, one on the outer face of the prepuce—all discharging profusely. He was immediately placed on pills of the proto-ioduret, the papules touched every second day with the *nitr-ac-de-merc.* The discharge was immediately arrested, the sores rapidly improved, and on the tenth day from his admission he was reported perfectly cured.

These cases may serve to show the rapidity with which this symptom improves under the use of this caustic. In every case where I have applied it, the result has been the same; from ten to twenty days being the ultimate term of the disease, when it is judiciously combined with a general treatment. We have seen in Case I. that general treatment alone, influences but little this sore. There it was twice carried to the extent of incipient ptyalism without benefit: and what has been said in speaking of the place this peculiar form of morbid production should hold, in the scale of syphilitic symptoms, viz., that it is one of the earliest evidences we have of the existence of a general infection, would lead us to infer, on the other hand, that local treatment would be insufficient to eradicate the mischief. In fact, the more or less hypertrophy and induration, occupying the parts immediately about these sores, afford a rational and positive indication for the use of mercury in some form, as a resolvent; the same indication which exists for its use in chancre, the induration and hypertrophy resulting from the effusion of lymph into the surrounding tissues, and which until it is removed, presents an effectual barrier to a healthy process of cicatrization. The subjoined case may serve to illustrate these remarks.

Case V.—Jane ———, coloured woman, æt. 26, a prostitute, stout frame, general health good—does not know exactly when she contracted syphilis, thinks about two months before her admission; was salivated in the city. When examined, the labia on both sides, at the junction of the skin and mucous membrane of the vagina, presented from six to eight mucous papules, from half an inch to an inch in diameter, elevated from one to two lines above the level of the surrounding parts, secreting abundantly—the labia themselves enlarged, hard, and slightly painful. Anxious to see how far the local treatment we had applied so successfully in other cases, was, in itself, sufficient to effect a cure, these sores were touched five times with the *nitr-ac-de-merc.* After the second application, they were reduced to a level with the surrounding parts; still they manifested but little disposition to cicatrize, the labia remaining hypertrophied, and the surface of the papules secreting more or less. After the lapse of four weeks, finding things still in the same condition, the *ung. hyd. mit.* was ordered to be rubbed in on the labia, and 3 grs. *massa hydr.* given night and morning. The sores were still touched with the caustic: the labia diminished from day to day, the secretion was entirely arrested, the surface began to cicatrize, and on the eighth day after this change in the treatment, the patient was reported cured—forty days after her admission.

Cases might be multiplied, to prove the constant efficacy of the peculiar treatment of which we have been speaking, when judiciously combined with general means; but perhaps enough have been related to draw the attention of the profession to a more frequent use of the caustic we have employed with so much success. As to general treatment, we firmly believe mercury in some form to be necessary; that which we have employed in preference for the last two years at the Alms-house, as well as in private, is the proto-ioduret, in the form of pills—a grain night and morning. This combination of mercury and iodine seems to be peculiarly happy in its results, when we administer it, to meet what we consider the only positive indication for the use of mercury in syphilitic affections—the existence of hypertrophy or induration. The first of these we always have in mucous papules, and very frequently the second. The known resolvent power of both these agents, would seem to point to their combination as desirable to insure a completely successful result. This preparation—the proto-ioduret—holds a sort of middle place between the soluble and insoluble preparations—like the proto-chloride, it is less soluble than the deuto-chloride, cyanuret, &c.; less irritating to the intestinal canal, less likely to produce ptyalism, and is generally very well supported by patients. The prescription we usually employ is the following:

℞ Proto-iod-hydrarg. grs. xx.
Pulv. opii, grs. viii.
Extr. sarsapar. ʒi.
Div. in pill.—No. xx.—one night and morning.

This and a pint of the decoction of the woods daily, was the ordinary treatment for syphilitic affections in the wards under our care, and one, the success of which, was equally prompt and gratifying.

I have not spoken of the complications which may accompany mucous papules, as chancres, blenorrhagia, buboes, &c.—it would have extended this paper to an unreasonable length. My object has only been to point out some peculiarities with regard to this interesting symptom, to define more clearly its exact importance as an evidence of syphilitic infection, and the necessity there exists to eradicate it thoroughly whenever it exists—to point out a treatment which in my hands has always proved successful in accomplishing this end, and to lay the results of that treatment before the profession, in order that its comparative value may be tested by the results of their own experience.

M. FLOURENS ON THE STRUCTURE OF THE GASTRIC AND INTESTINAL MUCOUS MEMBRANE.

"I HAVE shown," writes this distinguished anatomist, "on a preceding occasion that the mucous membrane of the lips, mouth, and œsophagus is composed of distinct layers—the dermis, corpus mucosum, and epidermis. I now proceed to show that the mucous membrane of the stomach and bowels has the same structure. From the time of Glisson, at the close of the seventeenth century, to that of Bichat, it was generally maintained that the epidermis is wanting in the stomach and bowels; the mucus on their surface supplying, as it was thought, its place. The words of the latter physiologist are these:—'In the stomach and intestines the most delicate instrument cannot raise up an epidermis; no maceration or boiling has ever made it apparent to me; and I have applied an epispastic to a portion of the gut of a living animal, bnt no appearance of a pellicle could be discovered. It would seem, therefore, that there is no epidermic covering on these mucous membranes; at least its existence cannot be admitted until further researches; and these, I think, will prove rather against than for it.'

Beclard the learned commentator of Bichat's works has taken the same view of the question; and Meckel, the distinguised translator of them into German, has these words:—

"Epispastics during life, and maceration after death, equally fail in demonstrating the existence of an epidermis on the villous tunic of the stomach and intestines. It is therefore very doubtfnl that such an epidermis exists; the formation of membranes, having the form of the canals from which they are discharged, may be explained in quite another manner."

Some, however, of the most celebrated anatomists of the last centnry, as Ruysch, Lieberkuhn, and Haller, maintained an opposite opinion; but it is by no means evident whether they ever distinctly saw themselves, or showed to others, the existence of the epidermis in question. Ruysch termed it the *epithelium;* his description, however, is unsatisfactory, for it seems doubtful whether he ever succeeded in separating it from the villous coat. The only notice he makes of it is in these words; "we can see the villosities of this tunic without being obliged to detach the epithelium."

Lieberkuhn is certainly much more exact in his description than either Ruych or Haller; and as it may not be generally known, we shall give it here translated from the original Latin. "If a portion of intestine, previously slit open and well washed, be put into water, and kept there in a closed vessel for a sufficient length of time, a membrane, similar to the epidermis, will be found to separate: it does not so readily putrefy as the rest of the intestine. This membrane is indeed continuous with the epidermis of the skin, and it may be traced from the lips and mouth along the œsophagus, stomach and bowels."

Haller seems to have confounded the genuine epidermis with the villous tunic of the intestines.

M. Flourens, by following out the plan mentioned in the preceding extract, has succeeded in detaching the epidermis of the stomach and intestines not only in shreds and pieces, but in long continuous laminæ: he exhibited to the Academy two portions of small intestine, which exhibited in all their extent the epidermis of the villous tunic; altogether distinct and detached from this tunic.

This epidermis forms a continuous, fine, and transparent tunic. Its external surface is roughened with numerous minute projections, while its inner surface exhibits a crowd of small depressions or pits.

These pits and the projections indicate the points of the epidermis, which correspond with the papillæ of the dermis beneath, and serve as sheaths or coverings to these.

Between these two membranes—the dermis and the epidermis—is interposed a *veritable* corpus mucosum, which is somewhat thicker than the latter, and, like it, forms a continuous and most perfect covering to the papillæ of the dermis; thus protecting them from the immediate contact of the irritating matters to which the bowels are exposed.—*Med. Chir. Rev.* from *Gazette Medicale.*

CASES OF CLUB-FOOT SUCCESSFULLY TREATED BY OPERATION.

Case 1.—Mad. Bidaine, 37 years of age, had been affected with the *pes equinus* since she was five years of age. It was the result of an abscess in the ham and calf of the leg, which had left behind a permanent contraction of the tendo-Achillis. The consequence of this was, that the patient had never been able to put the foot fairly down upon the ground, but always walked on her toes. The size of the affected limb was much smaller than its fellow.

Notwithstanding the number of years that the deformity had existed, the patient was so anxious that an attempt be made to remedy her deformity, that Dr. Lenger determined to perform the operation of dividing the tendo-Achillis. On the fifth day afterwards, the adhesive bandage was removed, and the wound was then found to be cicatrised. A slight depression was perceptible between the divided ends of the tendon. The patient experienced a dragging pain in the leg, extending upwards along the thigh; the foot was somewhat swollen, and had, greatly to the surprise of the patient, already recovered in a considerable degree its natural position, forming now nearly a right angle with the leg. We should mention that a simple *bottine à tuteur* was worn by the patient. Before the end of the second week she could bend the foot at the ankle-joint; and daily this movement became more and more easy. Whenever the boot was removed, the foot was immediately drawn into its faulty position, the force of the powerful extensor muscles being still much greater than that of the flexors.

It was indeed doubtful whether, at the patient's time of life, this predominance might ever be overcome. After the lapse of several months, however, she was able to walk about with an ordinary boot; and although she still limped a little in consequence of a slight shortening of the affected limb, the foot had entirely regained its normal position.

The case may be regarded as altogether one of the most satisfactory proofs of what may be effected by surgical assistance in one of the varieties of club-foot.

Case 2.—Marie Lacomte, 11 years of age, was affected with congenital varus (the foot turned inwards) of the left foot. The tendo-Achillis was divided at about two inches above the heel. The *bottine à tuteur* was put on immediately after the operation. Everything went on favourably, and the deformed foot speedily acquired a permanent healthy direction. The cure was complete at the end of a month. Four months afterwards it was scarcely possible to perceive the slightest difference between the two feet in walking; for six weeks she had discontinued the use of the *bottine*, and had worn a common shoe.

Case 3.—A boy, seven years old, was born with *varus* of both feet. Every sort of bandage and apparatus had been tried to rectify the deformity; but in vain. Indeed, these attempts seem to have rather increased than diminished the tendency of the feet to turn inwards. The legs, especially the calves, were unusually small, and the feet appeared to be out of joint (*deboités*), the tibio-tarsal spaces being quite straight. On the 17th of July, the tendo-Achillis of each limb was divided at about an inch and a half above their insertion into the heel. The *bottines* were immediately put on. These he continued to wear for several months. Ultimately a perfect cure was obtained.

Case 4.—A young man, 17 years of age, was affected with congenital varus of both feet. The deformity was very great, in consequence of the large bosses or tumours which the indurated skin had formed over the insteps. He had the greatest difficulty in walking any distance, and his situation was altogether miserable. In other respects, this patient was healthy and robust for his age.

Both tendons were divided at between two and three inches above the distal insertion; and the *bottines* were put on immediately afterwards. Large eschars formed over the insteps; but these gradually separated, and the ulcers healed up, although the *bottines* were kept constantly applied. In six weeks, he could walk about alone; and in two months more, he began to wear a pair of common boots, to which a semicircular steel strap was affixed. The cure may be considered as complete.

Dr. Lenger alludes to several other cases—in all 16—in which he has performed the operation of dividing the tendo-Achillis. In every one of these, he has succeeded in removing the deformity; and in none has any disagreeable accident occurred.

In very young children, the deformity may certainly be often cured without any operation, and merely by the use of an appropriate bandage and of a boot, so contrived as to bring and retain the foot in a normal position.—*Ibid.*, from *Bulletin Medical Belge.*

MARSHALL ON ENLISTING, ETC.*

THIS is an excellent commentary on the various regulations which have been issued in regard to the duty of examining recruits and the discharging of disabled soldiers, and cannot fail to prove of great utility to the medical officers of the Army. A considerable part of the medical portion of the work is necessarily devoted to the subject of malingering. Here we find several anecdotes which are at once interesting and highly instructive. Speaking of deafness, Mr. Marshall says,—

"A simulator of deafness is rarely if ever discovered, except by finesse or accident, such as addressing him by name while he is asleep. In the following two cases, finesse was very successfully employed :—

"A recruit from Cork, who joined the Depôt of the East India Company at Chatham, alleged that he had almost totally lost the sense of hearing, and the testimony of his comrades from Ireland served to support his statement. Dr. Davies, surgeon to the depôt, admitted him into the hospital, and put him upon spoon-diet. For nine days Dr. Davies passed his bed during his daily visit to the hospital, without seeming to notice him. On the tenth day, he felt his pulse, and made signs to him to put out his tongue; he then asked the hospital sergeant what diet he gave the man. '*Spoon Diet*,' replied the serjeant. The Doctor affected to be displeased, and in a low voice said, 'Are you not ashamed of yourself, the poor fellow is almost starved to death. Let him instantly have a beefsteak and a pint of porter.' The recruit could contain himself no longer. With a countenance expressive of gladness and gratitude, he addressed Dr. Davies by saying, 'God Almighty bless your honour; you are the best gentleman I have seen for many a day.'

The next case—'*Sham Deafness*'—has been already inserted in this Journal, p. 460, Vol. III.

The existence of hernia *per se* does not constitute a cause of discharge, except in case of extreme disability. But during war no soldier effected with hernia should be retained in the ranks.

"Hernia is not a cause of much inefficiency in the Army, nor are there many men discharged on this account. By a return, comprehending a considerable portion of the Army, it appears that, among an aggregate strength of 10,000, there were admitted into hospital 10 men on account of hernia, or one in 1000, the range being from 5 to 17 per 10,000. The ratio of admissions among the cavalry is 10 per 10,000, which is exactly the amount of the general mean. Among every 78,796 men one died of hernia; and with respect to the number of men discharged, it appears that of every 10,000 men serving in India, three were annually disabled and discharged from the service in consequence of hernia.

"Although hernia be not a cause of much inefficiency in the Army, it is occasionally alleged as a reason for being exempted from particular duties; and medical officers frequently find considerable difficulty in determining whether the plea arises from want of will or from physical infirmity.

"Hernia has been simulated by soldiers who were anxious to obtain their discharge.

"Pat Gafney, second battalion, Rifle Brigade, having been 'unfortunate,' by which term is implied that he had been convicted of a crime, and punished, complained that he had become ruptured. He was forthwith examined by Dr. Connel, assistant-surgeon to the brigade, who found a slight degree of fulness over the left inguinal ring, and eventually he ascertained that the left testicle was not in the scrotum. By means of considerable pressure applied above the ring, the testicle was extruded and restored to the scrotum. Gafney had served several years in the Marines, and was discharged, as his 'instructions' stated, in consequence of inguinal hernia, the result of service, with a pension of fivepence a day. It would appear that he succeeded in obtaining his discharge and a pension from the Marines by simulating hernia, but he failed, however, in imposing upon Dr. Connel. He was discharged from the Army with every mark of ignominy in September, 1827.

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* On the Enlisting, Discharging, and Pensioning of Soldiers, with the Official Documents on these Branches of Military Duty. By Henry Marshall, F.R.S.E., Deputy Inspector-General of Army Hospitals. London : Longman & Co., 1839. 8vo. pp. 259.

"I have seen several men who had the voluntary power of drawing up a testicle to the ring, and retaining it there for some time. According to Baron Percy some men can retract a testicle within the abdomen. Some years ago a paper was picked up in the General Military Hospital, Dublin, which contained a 'receipt for making a rupture.' The scrotum was to be punctured with a large pin, and then, by means of a piece of tobacco-pipe, it was to be blown up with air. The same operation was to be performed on the other side, if a double rupture was required; poultices were to be applied to reduce the inflammation. The manuscript was supposed to have been dropped by a man belonging to the 18th Hussars, who had been left in hospital when the regiment embarked for England. He joined his corps at Romford, in Essex, with his scrotum greatly enlarged; according to his own statement the swelling came on in consequence of his jumping from a window shortly after he left the hospital; on his landing at Liverpool it became so large and painful that he could not walk, and was in consequence forwarded in a cart. When the scrotum was pressed a crepitus was perceptible. The swelling was in all likelihood excited, and probably by the means directed in the 'receipt.' This man succeeded eventually in obtaining his discharge by simulating disease of the hip-joint."

But not content with feigning disease, conscripts have frequently recourse to mutilation of their bodies, as a means of exemption from service. Mr. Marshall cites numerous examples:—

"During the insurrection of the Kandians in 1818, a private, and a tailor by trade, belonging to —— regiment, and who had been only a short time in the service, was on sentry a little in advance of a post occupied by British troops, and while on this duty he was occasionally fired at by the enemy from the surrounding jungle. This man was found severely wounded, the calf of the left leg being greatly torn, the whole charge of a musket having passed through it. He attributed the wound to a shot from the enemy; but the black charcoal on the leg, the nature of the injury, and the recent explosion of his own musket, told a different tale. He was, along with other men of the regiment, discharged, and received a pension of sixpence a day. When I was on duty in Edinburgh as staff-surgeon (1823), a pensioner applied to me to report on his case, in consequence of an alleged aggravation of the disability for which he had been discharged, with a view of moving the Lords Commissioners of Chelsea Hospital to increase his pension. He complained of a pectoral affection; but I learned from his 'instructions' that he had been discharged on account of a gunshot wound in the leg, the cicatrix of which he uncovered with great reluctance, and by this means I recognised my old patient the tailor. He disappeared without repeating his solicitation for me to report upon his alleged pectoral complaint.

"In the course of about three years, or from 1819 to 1821, inclusive, a great number of soldiers belonging to the Bombay European regiment and artillery, mutilated themselves, principally by cutting off a thumb. Sometimes the wrist-joint of the right arm was destroyed by a gunshot wound. At first, these men were sentenced by a court martial to undergo severe corporal punishment, which they received previously to being discharged; but this measure did not arrest the progress of what may be considered an epidemic. Subsequently solitary confinement for twelve months was substituted for flogging, and apparently with good effect, and examples of mutilation became much less frequent than they had been formerly; the long protracted period which elapsed before the men were sent home was supposed to have had a greater influence in discouraging mutilation than corporal punishment.

"Perhaps the most remarkable investigation which ever occurred in regard to the mutilation of soldiers happened at Douane, near Dresden, 19th June, 1813. After the battles of Lutzen and Bautzen, it was represented to Napoleon that a great number of the wounded had merely lost fingers, or had their hands injured by musket-balls, and suspicions were entertained that the wounds had been voluntarily inflicted. A board of medical officers was directed by the Emperor to assemble for the purpose of examining 2632 soldiers, each of whom had been wounded in the hand. Baron Larrey was appointed President of the Board. The examination of each man was made with great care,—First, in regard to the disabling effects of the wound. Secondly, in regard to their immediate causes. Thirdly, respecting the circumstances which preceded and attended the infliction of the injuries.

"The Board, after mature deliberation, came to the conclusion, that it was impossible to distinguish between wounds occasioned by the fire of an enemy and injuries voluntarily inflicted, and consequently they reported that there was no satisfactory evidence of any of the soldiers under examination having mutilated themselves.

"During the year 1833, 176 soldiers in the French Army were convicted of the crime of voluntarily mutilating themselves, being relatively as 1 to 39 of all the other convictions, and actually as 1 in 2262 of the strength of the Army."

Mr. Marshall's work abounds throughout in a variety of practical remarks, derived from his long experience; and it is with much pleasure that we announce it as a valuable acquisition in a much-neglected department of medical literature.—*Lancet.*

SECONDARY SMALL-POX.

CASES RELATED BY W. BARRETT MARSHALL, R. N.

WILL you favour me with space in THE LANCET for the following extract of a letter from Mr. J. D. Jeffery, of Sidmouth, the author of "*An Essay on the Prevalence of Small-Pox, and the Evils of Inoculation, addressed to the Members of the Boards of Guardians?*" I may premise that no acquaintance subsisted between the writer of that letter and myself, until I received it this morning, with a copy of his Essay.

"After a careful investigation of nearly 400 cases, occurring in this town and neighbourhood (Sidmouth), two years since, I came to the conclusion—1st. That secondary small-pox is much more frequent in its occurrence than formerly; and, 2dly, that it was very questionable if the inoculation for the small-pox was a greater preservative from the re-occurrence of that disease than was vaccination, whilst the comparative danger of the two was fearfully in favour of the former."

"With regard to the truth of your assertions respecting the occurrence of small-pox twice, which has been doubted, I can only say, that there were *three* well-authenticated cases in this place during the last epidemic, in one of which, a young man, æt. 21, it proved fatal. He was *deeply pitted* from the effects of the first attack. I have been informed by Mr. Hunter, an experienced practitioner at Budleigh Salterton, that he has seen the small-pox *four times* in the same individual."

To the kindness and liberality of Sir Wm. Burnet, the Physician-General of her Majesty's Navy, I am indebted for the knowledge of another case of unequivocal secondary small-pox; it is contained in a letter from Mr. Parkin, surgeon, Royal Marines, accompanying divisional answers to a set of questions proposed to the surgeons of the Marine Corps, relative to small-pox and vaccination in their force:—

"We have had two cases of death from small-pox, after the most satisfactory vaccination, according to external evidence, of some years' previous date; and one case of malignant *small-pox*, which ultimately proved fatal, in an individual, aged about 40, who had in early life been *inoculated*, and had the disease confluently, bearing the most unequivocal proofs thereof, *by a countenance more seamed and pitted than any I ever before saw*. He took the disease in this infirmary (Woolwich), by visiting, in conjunction with myself, some cases of varioli of a bad kind; and at the period when the first fatal case of varioli happened, after vaccination, and when another individual took the disease in the hospital, who had previously passed the vaccine disease by inoculation from the cow in milking.—H. PARKIN."

I hope soon to be in a condition to make public a complete statement of all the cases of small-pox which have occurred in the navy of this country, for the last 17 years. Some very curious facts will thus be brought to light, and, I think, when all the facts which the naval medical records supply are collected together, the collection will be found to supply other cases of a similar kind to those narrated above, and so to place beyond cavil or dispute the fact, as a fact indisputably true, that if vaccination does not in all cases protect from small-pox, neither does small-pox in all cases protect from itself.—*Ibid.*

DYSMENORRHŒA,

Accompanied by inflammatory congestion of the Cervix Uteri, effectually relieved by superficial scarification of that part.

BY J. L. FENNER.

I AM anxious to communicate the following case, and its treatment, as I have reason to believe that the scarification of the cervix uteri, in these painful cases, is nearly, if not entirely, an original suggestion, especially with regard to abstracting from it a definite quantity of blood. Dr. Ashwell saw the case with me, and was much pleased with its effects. He requested that the operation might be repeated as circumstances required.

Mrs. ——, a widow, æt. 39, had been long afflicted with dysmenorrhœa, accompanied with inflammatory congestion of the uterus, dating its origin many years since, from a severe and protracted labour. The nervous system was so entirely implicated in this affection, that the superior and inferior extremities, as well as the body, were continually agitated by a species of chorea. She was passing through a three months' course of mercurial friction, and had found no relief from opium or any kind of narcotics. Leeches alone, applied round the cervix uteri, had palliated her sufferings, and these acted like enchantment, dissipating every symptom, and, after restless nights, producing a calm refreshing sleep of some hours' duration.

Nov. 1, 1839.—Appreciating the relief obtained from the abstraction of blood and its tendency to remove congestion, it struck me as quite practicable, aided by my cylindrical tubular speculum (described in the MEDICAL GAZETTE, May 25, 1839, and may be seen at instrument makers), easily to abstract, by slight scarifications of the cervix uteri, any quantity I might think desirable. After a few superficial scarifications the blood trickled freely, and, in a quarter of an hour, two ounces and a half (by weight) were obtained, and the tube withdrawn, when the bleeding immediately ceased. Precisely the same relief followed, with uninterrupted sleep, as was wont to result from the application of leeches. The patient said that the operation was so painless that it would not even have disturbed her sleep. Dr. Ashwell saw the patient with me, and requested that the operation might be repeated, as it seemed to have been very beneficial.

2d.—Two ounces and a half of blood were obtained under the same circumstances.

3d.—Three ounces and a half of blood.

5th.—The cervix uteri having many marks of scarification, the tube was withdrawn a little, so as to expose the *cul de sac* of the vagina. Scarifications were made, presuming that it would bleed freely, because to that part of the vagina leeches have been applied by tubes perforated at the end with holes, and unscientifically thrust up the vagina; but such tubes cannot be duly applied to the cervix uteri, though sometimes to a portion of its side. The blood trickled freely, and in a quarter of an hour four ounces (by weight) were obtained, with the same relief as by leeches.

9th.—The patient having obtained more decided relief than on any former occasion from the application of leeches, the scarification is to be resumed as occasion may require, and the mercurial friction to be continued to the given time.

I have performed this operation on two other patients, and, since writing the above, have abstracted five ounces of blood (by weight) from the cervix uteri.—*Medical Gazette.*

TREATMENT OF DYSMENORRHŒA, WITH MERCURIAL ALTERATIVES.

BY ROBERT DUNLOP, SURGEON.

HAVING been repeatedly foiled in my attempts to subdue this painful disease, after well-directed medical treatment had been continued for a due space of time, I was led to make trial of mercurial alteratives, from the well known fact of their efficacy in relieving painful affections of many other organs, more especially those affections of a sub-acute inflammatory type. The result has been favourable, so far as my own experience has gone, and I subjoin the two following cases as an example:—

CASE 1.—M. Irvine, æt. 28, of a rather open habit of body, has been married about five years; never has been pregnant; catamenia she states to have been regular since the age of 15 or 16, about which period she first began to menstruate; no remarkable deviation has ever taken place, either as regards the quantity or quality of the discharge; her periods have been passed with little inconvenience, until about two years ago, when the painful symptoms first began to manifest themselves; each period since has been more or less attended with excruciating suffering, which was of short duration in the early stage of the complaint, and relieved by the menstrual discharge, but subsequently the pain has continued throughout the whole period, enduring a day or two after the discharge has totally ceased. Her present symptoms are: bowels costive; countenance sallow, with a somewhat haggard appearance; catamenia regular; no tenderness upon pressure on the sacrum; paroxysms of pain lasting from six to eight days, and so severe as to compel her frequently to assume the horizontal posture; she remains tolerably free from pain in the intervals, but describes her present existence to be almost insupportable, from the unerring certainty of having to undergo at each period the same acute suffering.

April 16, 1838. I ordered the warm hip-bath, and flannels wrung out of hot water to the pubes, together with opiates, during the attack, with great relief; in the interval, her general health was attended to, and her bowels kept sufficiently open; she took for some time preparations of iron, a course of the ioduret of potassium, and, lastly, guaiacum three or four days previous to the expected attack; she took, likewise, the ext. of hyoscyamus, with considerable doses of camphor and the semicupium at bedtime; the result was a temporary relief only, and a gradual return of all her sufferings; she had now passed over six periods, with little prospect of procuring any permanent relief, when I ordered her the following pills, to be commenced at least six or eight days previous to the expected attack:—

℞ *Blue Pill*, one drachm;
Opium, 6 grains;

Well compounded and divided into 16 pills. Take one, night and morning, until 12 are taken. Afterwards, one every night.

℞ *Infusion of columba root*, 7 ounces;
Tincture of gentian, 1 ounce;
Carbonate of soda, 1 drachm.

Make a mixture. Take two table-spoonfuls two or three times a day.

She passed over the usual period with scarcely a vestige of pain, and expressed great relief; the discharge she thought was slightly increased in quantity; she took no more medicine, and passed over the next period with a slight pain only; fearing a relapse I prescribed the following pills, to be given eight days before her expected period:—

℞ *Mercury, with chalk;*
Dover's Powder; of each 2 scruples;
Extract of black hyoscyamus, half a drachm.

Make 24 pills. Take two every night at bedtime.

The result has been a complete relief from her sufferings, and great improvement in her general health.

Case 2, October, 1838. A. Newton, æt. 30, married, of a full and lax habit of body; has had one child, about four years ago; no remarkable deviation has ever occurred in menstruation, until about four months ago, when painful menstruation first began; she complains of an almost constant aching pain in the back, loins, and thighs, symptoms which are greatly aggravated at each period; menses much more profuse than usual, and continue longer than natural; sacrum slightly tender on pressure; tongue furred; pulse 80.

Leeches were first applied to the sacrum in this case, together with cooling aperients and low diet; in the course of time various remedies were had recourse to, together with sedatives when required, but no complete or lasting relief was obtained. I again ordered mercurial alteratives much as in the former case, with complete success; not only were the painful symptoms speedily subdued, but a simultaneous diminution of the catamenia took place.

Remarks.—With reference to these cases we have to observe, that we are not acquainted with any writer who has sufficiently insisted upon the employment of mercurial alteratives in this disease; and, if we mistake not, there exists a general dislike to employing mercurials as remedial agents in dysmenorrhœa, partly from a dread of the baneful influence sometimes observed to follow the use of this mineral, and partly also from the female possessing a constitution generally thought less suited to bear the influence of this remedy, but as yet we have never witnessed any hurtful effects to follow its use as here recommended. There are no doubt other forms of mercury, as being better suited to certain constitutions, which must be left to the judgment of the practitioner to adopt, but as yet we have never found it necessary to have recourse to any other forms than those already specified, which have always been successful in our hands. But whilst we thus strenuously advocate the use of mercurial alteratives, we are far from inferring that every case of dysmenorrhœa should be treated by this remedy, we, however, wish to be distinctly understood that every case of obstinacy, after having resisted general treatment, and where there is no particular organic disease forbidding the use of mercury, should be treated by this remedy as a very certain means of subduing this painful affection.—*Lancet.*

DEATHS BY POISON.

The "*Gateshead Observer*," of Nov. 2, contains a very important and interesting document on the subject of poisoning, which we subjoin.

We have before us a Report made to the House of Commons at the instance of Sir Robert Inglis, and ordered to be printed on the 27th of August, 1839. It is entitled, "Returns from the Coroners of England and Wales of all Inquisitions held by them during the years 1837 and 1838, in Cases where Death was found, by verdict of Jury, to have been caused by Poison." This Report is fraught with deep and melancholy interest; and considering that the public may be benefited by an extended publication of its contents, we have with considerable care and labour reduced the Returns into a compact and popular shape, to adapt them to our columns.

We regret, first, that the returns are not complete, some Coroners having neglected to comply with the request of the Commons; and, second, that the Coroners who have made Returns, have, in many instances, omitted particulars of great moment. We have endeavoured, however, to make the best of the imperfect materials before us.

We have classed the deaths under the various descriptions of poison by which they were caused :—

Arsenic		184
Taken by a girl disappointed in love	1	
By a girl, in a fit of passion	1	
By a girl, in a fit of jealousy	1	
By a girl who had robbed her master's son	1	
By a girl, seduced and deserted by a married man	1	
By a girl, subject to fits and despondency	1	
By pregnant girls, to destroy themselves	5	
By a pregnant girl, to procure abortion	1	
By a pregnant girl, deserted by her lover, who was suspected to have procured her the poison	1	
By a pregnant girl—how or by whom administered not known	1	
By a wife, separated from her husband	1	
By a young woman, married unhappily, and separated from her husband	1	
By a cook-maid, distressed by the death of a friend	1	
By an insane mother and two children—administered by the former	3	
By five children, to whom it was administered by an insane mother	5	
By a man, embarrassed by debt, and disordered in mind and body	1	
By men, through reduced circumstances, pecuniary embarrassments, &c.	6	
Taken through drunkenness	12	
By a farmer and innkeeper, who, having had a handsome legacy left to him, spent it in a riotous living—got into debt—and took poison to escape his creditors	1	
Through poverty	3	
Through despondency	1	
In lunacy	52	
In food, by accident	7	
In mistake, by young people, in food prepared for vermin	5	
In mistake, by a married woman, who, having mixed it with oatmeal for vermin, was innocently supplied by her husband with food prepared from the mixture	1	
By accident, the deceased having tobacco and arsenic loose in the same pocket	1	
In mistake for cream of sulphur	1	
Administered to a child in mistake for magnesia	1	
——— Queen's cordial	1	
Taken inadvertently, in various ways	3	
Administered wilfully	5	
How administered not known	2	
Felo de se	20	
Taken without cause assigned in the Report	36	
Opium		42
Overdose, taken by adults in ignorance	11	
Overdose, administered to children by mothers and nurses	8	
Administered to a child in mistake for other medicine	1	
Supplied by a deaf druggist for manna, and administered to a child by an ignorant nurse	1	
Administered to a child, found dead in the Trent, extensively bruised (the poison and the wounds both sufficient to account for death)	1	
Taken by a child in ignorance	1	
Taken through drunkenness	2	
Through lunacy	9	
How administered not known	1	
Felo de se	2	
Taken without cause assigned, &c.	5	
Laudanum		133
Administered by mistake	2	
—— for antimonial wine	1	
—— for paregoric	2	
—— for Godfrey's cordial	2	
—— for syrup of buckthorn	1	
—— for tincture of rhubarb	4	
Sold at a druggist's for antimonial wine—the druggist		

not bred to his trade, and kept two shop-girls, one of whom (the coroner ascertained) gave twice as much laudanum for a penny as the other	1	
Taken by adults as medicine	11	
An overdose, taken by a drunken surgeon	1	
Taken by mistake for a surgeon's draught	1	
Administered to children in mistake	2	
Drunk by a child within whose reach the phial had been left	1	
Given by a child to an infant, to allay coughing in the mother's absence	1	
Overdose to infants by mothers and nurses	26	
Taken inadvertently	7	
Through despondency	4	
Through drunkenness	9	
Through dissolute conduct	1	
Through lunacy, induced by want	2	
Through lunacy from various causes	30	
Through loss of situation	1	
Wilfully administered	2	
How administered not known	3	
Felo de se	4	
No cause assigned, &c.	14	
Cough Syrup		1
Overdose, given by a mother to her child	1	
Syrup of Poppies		5
Overdose, administered to children by mothers and nurses	5	
Godfrey's Cordial		12
Overdose, administered to children by mothers and nurses	10	
Administered to children by mistake for syrup of rhubarb	2	
Infant's Mixture (most probably a preparation of Opium)		1
Overdose, given by a mother to her child	1	
Morison's pills		1
Taken as a medicine	1	
Tartar emetic		2
Three drachms, taken to cure ague	1	
Overdose, given to an infant	1	
Colchicum		3
Overdose, taken for the gout	1	
Taken as medicine	2	
Mixture for vermin		2
Taken by children, within whose reach it was left	2	
Hellebore		1
Taken by a "temporary lunatic"	1	
Mercury		2
Taken by a "temporary lunatic"	1	
Felo de se	1	
Bichromite of potash		1
Eaten ignorantly by a child	1	
Aquafortis		2
Drunk by a child, within whose reach it was left	1	
Taken in temporary lunacy	1	
Oxalic acid		19
Taken by a woman who had quarrelled with her husband	1	
By a person of defective intellect	1	
Through lunacy	8	
Through drunkenness	1	
Through want of employment	1	
By a young woman on the emigration of her brother	1	
By a child, within whose reach it was left	1	
Without cause assigned	5	

*** It is singular, that nearly the whole of the cases of poisoning by oxalic acid occurred in Middlesex.

Nitrate of silver		1
By a child (swallowed percussion caps)	1	
Castor-oil seeds		1
Taken inadvertently	1	
Fungus		
Eaten for mushrooms	4	
Rum		1
Ignorantly given to a child for inflammation of the bowels	1	
Extract of lead		1
Found in solution by a woman, and given to her child in mistake for ginger-wine	1	
Essential oil of almonds		4
Taken in lunacy	2	
Without cause assigned	2	
Prussic acid and arsenic		1
Taken in lunacy	1	
Arsenious acid		1
Taken in mistake for a purging powder	1	
Acetate of morphine		2

Administered in mistake for other medicine	2	
Strychnine (the active principle of Nux Vomica)		2
Taken by a child, to whose father it had been sent as a medicine	1	
Lunacy	1	
Nux vomica		3
Taken in ignorance of its effects	1	
Procured by a girl of weak intellect, and given to her father, who had sent her for an emetic	1	
Taken without cause assigned	1	
Wolf's bane		1
Eaten by a child, who found it in his father's garden	1	
Black ashes		1
Procured for washing, and eaten by a child	1	
Sulphate of iron (*Copperas*)		1
Taken to procure abortion	1	
A vegetable poison		3
Taken by two children (brothers)	2	
By an adult	1	
Hiera picra		1
An overdose, taken in gin	1	
Monk's hood		1
Gathered by a poor old man, and eaten in mistake for celery	1	
Savine		1
Taken to procure abortion	1	
Infusion of Hemlock		1
Overdose, taken by a woman	1	
Laudanum and prussic acid		1
A case of lunacy	1	
Potash		1
Taken by a child	1	
Medicine		1
Administered to an infant—intended for an adult	1	
Muriate of tin		1
Taken by a child in mistake for vinegar	1	
Cantharides		1
An embrocation, containing tincture of cantharides, administered to a child in mistake	1	
Laudanum and aquafortis		1
Lunacy	1	
Carburetted hydrogen gas		2
Inhaled during sleep, through an accidental escape of gas	2	
Belladonna (Deadly Nightshade)		2
Taken by mistake	1	
Without cause assigned	1	
Paregoric elixir		2
Overdose, administered to children	2	
Decoction (nature not exactly known)		1
Taken by a pregnant girl, with the supposed intention to procure abortion	1	
Nitrous acid, with aloes		1
Taken without cause assigned	1	
Cayenne pepper, &c.		1
Cayenne pepper, essential oil of Cayenne, and bark, taken in alcohol, as a remedy for the ague	1	
Turpeth mineral		1
Taken in mistake	1	
Sulphuric acid (vitriol)		32
Swallowed by children, ignorantly	9	
——— for ginger beer	3	
Administered to children, for Godfrey's cordial	4	
——— a child, for castor oil	1	
——— for syrup of rhubarb	1	
——— for some medicine not named	1	
Accidentally sold for Godfrey's cordial, and given as such to a child	1	
In a drunken fit	1	
Through insanity	5	
Through family quarrels	1	
By a woman, who thought herself forsaken by God	1	
Without cause assigned	4	
Hydrocyanic (*prussic*) *acid*		27
Taken by surgeons, depressed in mind by reduced circumstances	3	
By a surgeon delirious from scarlet fever	1	
By a surgeon, addicted to drinking	1	
By a surgeon, in a fit of frenzy	1	
By druggists, deranged	2	
By a medical student, affected by over study	1	
By a child, in ignorance	1	
By a gentleman, reduced from affluence to poverty, and deranged	1	
Through disappointment in love	1	
Through lunacy	9	

Without cause assigned	6	
Corrosive sublimate		12
Taken incautiously as medicine	1	
By mistake, for cider	1	
In a fit of passion	1	
Through despondency	1	
Through lunacy	5	
Felo de se	2	
Without cause assigned	1	
Poisons not specified		14
Taken accidentally	2	
By a drunkard, in mistake	1	
Case of miscarriage, the mother having received some noxious drug	1	
Taken without cause assigned	2	
Through lunacy	7	
How administered not known	1	
		543

The total number of deaths by poison, in 1837 and 1838, it will be seen, was 543. Of these 261 were females: 282 males.

The total number of individuals poisoned by opium, or its preparations, was 186.

The deaths of very young children (most of them at the breast), from opium, or its preparations, administered by mothers and nurses, in ignorance of the powerful effects of those substances on infants, were 52.

The deaths of young children from opium or laudanum administered in mistake for other medicine, were 20. In 11 of these cases, the names of the medicines are given, in the place of which opiates were given by mistake.

The very great number of deaths amongst children, resulting from overdoses of opium, or its preparations, and from doses thereof given in mistake for other medicines, cannot fail to excite attention. Deaths of this kind amount nearly to a seventh of the entire number of deaths by poison! The number was 72!

Most of the children poisoned in this way *lost their lives* owing to the ignorance, carelessness, or presumption of *their mothers.* It cannot be too generally known that narcotic and anodyne drugs, powerful though they be in the adult, act with infinitely greater energy upon the more sensitive nervous system of the infant; so that even experienced medical men never administer remedies of this class to the very young, without exerting the utmost caution and making the most accurate calculation. Two drops of laudanum have been known to kill an infant. Nay, we have heard of a case in which *one* drop stole away the life of a new born babe. It is evident that the practical inference to be deduced from the facts represented in the above table is—*that mothers and nurses should never dare to administer medicines of the narcotic kind, except under the immediate direction of the medical attendant.*

The Coroner of Nottingham states, that "Godfrey's Cordial is given to children to a great extent; and that he has no doubt whatever, that many infants are yearly destroyed in that borough, but who, dying off gradually, never come under his notice officially." There can be no doubt of the truth of this assertion. At all events we can say positively that such instances occur elsewhere.

It will be observed, that of the 20 cases in which death resulted from the administering of opium or laudanum by mistake, 11 were instances in which they were given instead of substances more or less resembling them in colour. No details of the mistakes are given in the remaining 9.

In recording one of the 11 cases, Mr. Browne, the Nottingham Coroner, (who has very commendably entered more into detail than most of the Coroners,) says:—"There appeared very great negligence on the part of the person who sold the laudanum. He had not been brought up as a druggist, but had latterly taken to the business, and employed two young girls to attend to his shop, and sell his drugs in his absence. I ascertained, personally, at the shop, that one of them sold twice as much for a penny as the other!"

In 10 of the 11 cases, although the medicines are named instead of which laudanum was administered, we are not told whether the mistake was made by the mother, the medical attendant, or the dispenser.

We find in the returns 4 cases of the administration of savine and other poisonous drugs, with the view of procuring abortion. In 3 of these cases, the mother perished undelivered. In the fourth, the child perished.

We believe the disgusting crime of fœticide would not be so often attempted, if the real effects of savine, and the other drugs made use of, were properly understood. These agents never can induce abortion without placing the woman's life in the greatest danger; and a very frequent result is, that she dies undelivered, having previously suffered the intensest agony.

In 8 cases, poison was taken for the purpose of self-destruction, by young women who had been seduced and were pregnant. Arsenic was the poison made use of in all these instances. It is probable, that besides these 8 cases, several other of the numerous instances of poisoning by arsenic had been the result of seduction;—but this is not stated in the Returns, which, we repeat, are very far from being full and satisfactory.

The deaths of 8 surgeons are entered, and it is a curious circumstance, that all of these had taken prussic acid. One had taken it with arsenic. Three committed self-destruction in consequence of pecuniary difficulties—one during the delirium of scarlet fever—one during the delirium of mania *a potu*—three during insanity. No instances of poisoning among members of the other learned profession are stated. *Perhaps* this may be owing to an omission in the Returns—but we are rather inclined to consider that they are not defective on this point.

Do not these facts furnish medical men with materials for melancholy reflection? Eight of their brethren have, within a short period, destroyed themselves; whilst no other profession is named on the tables. Three of these, indubitably, were urged to the rash act by embarrassments; and four committed suicide in insanity, which was probably induced by long continued anxiety and disappointment. In one case only—that of insanity following scarlet fever—could different and natural causes be assigned. May not these instances of self-destruction be deemed indications of an overstocked and ill-regulated profession?

These important Returns would furnish us with the means of extending our remarks to a much greater length, but we must—for the present at least—forbear. We cannot, however, conclude, without expressing our approval of a valuable suggestion made by Dr. Frampton, Coroner for Dorsetshire. This gentleman thinks there should be some way of *compelling* those who sell poison to *register* the day and the hour of sale, and the name of the purchaser. Mr. Frampton justly observes that from a want of such compulsory registration, the ends of justice are frequently frustrated.

Great credit is due to Sir Robert Inglis for having called for these Returns. They would, however, be much more useful to medical and political science, had information been required as to the profession, trade, or station in life, of each individual; and if it had also been stated (whenever possible) how the poison had been procured—whether from a druggist, a surgeon, or otherwise—the quantity sold, the age of the dispenser, and whether any precautions had been taken by him to prevent mistakes.—*Med. Gaz.*

PHILADELPHIA DISPENSARY.

Practical Obstetric Department.

At a meeting of the Class held at the close of Dr. Warrington's course, February 17, 1840, Mr. J. H. Gamble, of Virginia, Chairman, and Thomas W. Harris, of Tennessee, Secretary, the following preamble and resolutions were unanimously adopted:

While America may justly claim distinction in schools of Practical Anatomy, Surgery, Clinical Medicine, Chemistry and Botany, it has hitherto been a source of regret amongst the votaries of medical science, that no *effective* institution has, until recently, been established combining the practice of Obstetrics with the theory; and that thus annually issued from the halls of her Universities, crowned with their highest honours, candidates for practice and fame, comparatively unqualified for the duties of the Obstetrician,

Resolved:—That we congratulate the rising members of the medical profession in general, and those in particular, whose inclination may lead them to the prosecution of Obstetrics and the diseases of females exclusively, that the barrier hitherto existing to the attainment of this accomplishment is now entirely removed by the individual enterprise and untiring exertions of the Accoucheur of the Philadelphia Dispensary, who, while enlarging the sphere of his active benevolence to patients, adds, to the facilities afforded by the institution over which he presides, a profound acquaintance with his subject; an established reputation, an extensive practice, unwearied zeal, and a felicity of imparting instruction peculiarly his own.

Resolved:—That as the Practical Obstetric Institution of Philadelphia is not only incomparably valuable in itself, in which the student renders practical, in the lying-in room, the theory of his preceptor, but as it is the only one of the kind in the city, we take this opportunity of making the public aware of the advantages it affords.

Resolved:—That as the close of the session unavoidably separates us from an institution so eminently interesting and instructive, we hereby testify our gratitude to Dr. WARRINGTON as a benefactor, our admiration as a teacher, and our esteem as a gentleman.

Resolved:—That the secretary wait upon the editors of the several medical journals of the city, requesting the publication of the foregoing preamble and resolutions.

Resolved:—That Mr. S. Fuller, of Pennsylvania, Mr. J. D. Mason, of Tennessee, and Mr. Thos. W. Harris. constitute a committee to transmit a copy of the proceedings of the meeting to Dr. Warrington.

Signed, J. H. GAMBLE, Chairman.

THOMAS W. HARRIS, Secretary.

BIBLIOGRAPHY.

Remarks on some of the Medicinal Springs of Virginia. By GEORGE HAYWARD, M.D. Read before the Society for Medical Improvement, Sept. 23d, 1839. Boston, 1839. Pp. 11. 8vo.

A Visit to the Red Sulphur Spring of Virginia During the Summer of 1837 : *with Observations on the Waters.* By HENRY HUNTT, M.D. With an Introduction containing notices of Routes, &c., by an annual Visiter. Boston, 1839. Pp. 40. 8vo.

THE mere fact of the publication in Boston of the two tracts, whose titles we have just given, on the Virginia Springs, is strong evidence of the general attention with which they are now regarded by the people of the most distant parts of the Union, as a means for invigorating the weak and giving health to the diseased.

Of Dr. Huntt's pamphlet, on the occasion of its first issue, we have spoken in a former volume of this Journal. The present edition has its value enhanced by an Introduction from "an annual visiter" to the Springs. His design in giving it currency is purely philanthropic; himself benefited by the waters of these mineral springs, he wishes others to be similarly benefited. His intentions in this respect are well set forth in the initial paragraph of the Introduction.

"New England has the character, whether deservedly or not, of being more subject to complaints of the lungs, than other parts of the country. From the oral reports made to me, and from the publication of Dr. John Bell, on Baths and Mineral Waters, in general, and of the Virginia Springs in particular; as well as from the pamphlet to which this note is appended, it is believed that the waters of the RED SULPHUR are peculiarly adapted to the *relief*, if not to the prevention of consumption. In this belief, I have caused a few hundred copies of the pamphlet by Dr. Huntt to be printed, intending to cause a copy of it to be placed in the hands of the medical gentlemen of my native State; as well as to present a copy to each of the clergy, whose kind attentions are known to be always at the service of those who are suffering under diseases, in their several parishes.

"The variety of mineral waters in Upper Virginia, is probably greater than is found *within the same space* in any portion of the globe. That there are waters of the same character in Europe, there is no doubt; but as far as I am informed, or have experienced, one must travel hundreds of miles to procure the waters suited to the variety of cases to which the springs of Virginia are adapted. The Warm Spring, the Hot Spring, the Sweet Spring, the White Sulphur Spring, the Salt Sulphur Spring, the Red Sulphur, the Grey Sulphur, and the Blue Sulphur, can all be reached in travelling one hundred and ten miles; and the four first named, are within a circle of fifty miles. When the efficacy of those springs is mentioned to those who live in Boston, and who are nine hundred miles distant from them, and who may think that their complaints might be mitigated, if not entirely relieved by some of those various springs, the trial is often not made, either on account of the difficulty of reaching the springs, or from erroneous notions in regard to the expense of the journey. I will now give the most direct route, and state the expenses of the journey."

Useful information to invalids and others who intend to visit the Springs, is conveyed in the following extract:

"The city of Washington may be reached from Boston with ease in three and a half days,* by steamboat and rail-road via Stonington, New York, Philadelphia, and Baltimore. To Washington the expense of travel will be $21, and if you add a dollar per day for your support, three dollars and a half, gives $24½, for this part of the tour. From hence you have the choice of routes to the Warm Springs. The shortest is by *coach* from Washington to Warrenton or Lee's Springs, thence to Orange Court-House, Charlottesville, Staunton to the Warm Springs. Another route is from Washington or Baltimore, by rail-road to Harper's Ferry and Winchester, thence to Harrisonburg, and thence to the Warm Springs; the distance by stage being from one hundred and thirty to one hundred and forty miles, and the stage fare here about ten cents per mile. Through Virginia, on the great roads, the price of dinner and supper and breakfast, are fifty cents each; the time, two days. A third route is by steamboat from Baltimore or Washington to within a few miles of the mouth of James River, where you are met by, and transferred to, another steamboat which takes you to Richmond, the capital of Virginia; thence by rail-road to Lousia Court-House, seventy miles, and in thirty miles more by coach you reach Charlottesville, thence to Staunton and the Warm Springs in a day. A fourth route is from Washington by steamboat to Potomac Creek; thence by stage, nine miles to Fredericksburg, where you are taken in the cars of the rail-road, and thence to Louisa Court-House, where the rail-road now terminates, thence to Charlottesville, as in the former route.

"The most beautiful of the routes is that which takes you by Harper's Ferry, and Winchester, through the superb valley of the Shenandoah. The road from Winchester to Harrisonburg is now under the process of McAdamizing, and, in another year, will be finished; and I have no doubt will be a fine road, and the readiest way to get to the WARM SPRINGS. Charlottesville is worth a day in order to see the Colleges, and Montecello, the late residence of Mr. Jefferson. Between Charlottesville and Staunton, you cross the Blue Ridge, from the summit of which you overlook an immense extent of country. The roads, after the last of May, are good, no where dangerous, and generally equal to those in our own State. The road from Charlottesville to the Warm Springs does not pass through much cultivated country in proportion to the distance, but the mountain scenery compensates for the want of cultivation."

Dr. Hayward, who visited the Springs early in the summer of 1839, for the benefit of his own health, speaks of four of the eight principal ones in that region of Virginia. He also describes the routes which lead to them. We have not room just now to give a notice adequately full of his 'Remarks,' nor illustrate their scope and object by the proper extracts. But we intend, ere the summer approaches, to place before our readers all the substantial information contained in this and the pamphlet already noticed.

Report Concerning the Small-pox. By a Joint Special Committee of the House of Representatives, and the Senate of Massachusetts. Jan. 20th, 1840.

THIS report, for a copy of which we are indebted to the chairman, the Honorable Foster Hooper, begins by noticing the abandonment of the practice, and the repeal of the law enjoining it, of sending the inhabitants of Boston who may be attacked with small-pox to Rainsford Island as a quarantine ground.

Next the Committee proposes these questions: "On what can the people rely for protection and security against the ravages of the frightful malady? Will laws, however arbitrary, or police regulations, however strict, furnish security?" The immediate reply is, "The whole history of the disease gives a most emphatic negative to this question. It has invariably rendered futile all laws, and overleaped all restrictions, whenever there were subjects susceptible of its influence. It has successively and repeatedly ravaged all the countries of the earth, under every variety of form of government, and in spite of all attempts at legal restrictions. Its recurring periods have been from six to thirty years, and its severity was usually in proportion to the time of its absence."

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* I have been on the road from the Hot Springs to this place, Boston, but four and a half days, having stopped ten hours at Baltimore, four at Philadelphia, and four at New York.

The preventive means against small-pox are passed in review; first inoculation, and then vaccination. The precautions to render this last effectual, and the appearance of the vaccine vesicle, are next detailed, with references to the careless manner in which the operation is performed by ignorant and incompetent persons. The following strong and emphatic testimony is borne by the committee on this head. "From the evidence before your committee, taken in connexion with their individual experience, observation and reading upon the subject, they believe that vaccination if properly conducted, and tested by revaccination, would prove a perfect protection, with very few exceptions." In the correctness of this opinion we concur, and wish that the people could be induced, with unanimity, to act up to it. We should, in that case, no longer hear of the ravages of epidemic small-pox, even if we ever heard of the disease at all. The protecting power of vaccination is illustrated in the following observation of the committee:

"But notwithstanding the intensity of the epidemic influence—with the exposure of multitudes without any attempts at restraint, the disease has been, and is less prevalent and fatal, than many other diseases that are often occurring among us. Those, only, are falling victims to it, who have neglected to secure themselves by proper vaccination; and although it has been in this city over four months, the deaths by it have been less, in that period, than have been known to result from the measles in a single month, during some periods of their epidemic prevalence.

"It is understood that the number of deaths by Small-pox, in the city (Boston), in the last four months, is about eighty."

There are some statistical returns in this Report, which is prepared with clearness and ability, that merit a farther notice.

Statistics of the Medical Colleges of the United States. By T. Romeyn Beck, M.D. (From the Transactions of the Medical Society of the State of New York. Vol. IV.) Albany, 1839. Pp. 64.

A large amount of statistical information, in tabular and other forms, on Medical Colleges, is furnished by the learned and pains-taking author in the present article. In the progress of his task he has had occasion to correct the mistakes of former annalists and reporters—such as the American Almanac, &c.; and has encountered no small difficulty in collecting his facts, scattered as they were over so many different Journals, Introductory and Valedictory Lectures, Pamphlets, &c.

In a short Appendix we find a list of thirty-two medical schools in the United States with the dates of their foundation or incorporation. The first is the University of Pennsylvania in 1765—the last the Medical Department of Pennsylvania College in 1839. Dr. Beck does not include in this list the Medical College of Philadelphia, the act of incorporation of which, dating from the day of the Governor's signature, eleventh of October 1839—was not, we may suppose, known to Dr. B. when his report was put to press.

In subsequent tables are given the average number of medical students of Prussia, France, Hanover, Sweden, and the Netherlands.

The whole paper by Dr. Beck is a most valuable contribution to the statistics of medical instruction, and an important basis for estimates and plans for the future.

A Report on the Origin and Cause of the Late Epidemic in Augusta, Ga. Submitted to a Meeting of the Physicians of Augusta, on the 10th of December, 1839. Augusta. Pp. 30.

We are not able at present to do more than acknowledge the receipt of this valuable report to which we must recur soon.

In returning thanks to Dr. Forry, U.S.A., through whom we received the Report of the Surgeon General, with other valuable documents, we are obliged, at the same time, to express our regret for not inserting it in our present number. It will appear conspicuously in our next.

THE ECLECTIC
JOURNAL OF MEDICINE.

Vol. IV. APRIL, 1840. No. 6.

REPORT OF THE SURGEON GENERAL.

Surgeon General's Office,
November 6, 1839.

Sir: The time having arrived when I should again render an account of the fiscal transactions and other operations of the Medical Department of the army, I beg leave to submit to you the following statement and report:

The medical supplies for the army within the last year were regularly furnished when required, and of the best quality, and they have been accounted for in a satisfactory manner, both by the medical officers of the army, and the private physicians employed in the military service of the United States.

The amount of the appropriation for the Medical and Hospital Department remaining on the 30th of September, 1838:		
In the hands of disbursing agents, was - - -	$3,308 20	
In the Treasury of the United States - - -	40,768 04	
And the amount appropriated by the act of Congress of the 3d of March, 1839, was - - - - -	24,400 00	
Total - - - - - - - - -		$68,476 24
Of this sum there has been paid, during the fourth quarter of 1838, and the first, second, and third quarters of 1839, at the Treasury:		
On account of the pay and other claims of private physicians - - - - - - - - -	10,307 00	
On account of medical and hospital supplies - -	6,399 50	
On account of iron bedsteads, (300 in number), for military hospitals - - - - - - -	4,650 00	
And by disbursing agents for medical and hospital supplies - - - - - - - -	15,601 28	
Total - - - - - - - - -		36,957 78
Leaving a balance on the 30th of September, 1839:		
In the hands of disbursing agents, of - - -	5,470 59	
And in the Treasury - - - - - - -	26,047 87	
Total - - - - - - - - -		31,518 46
The amount of the appropriation for erecting hospitals at military posts remaining on the 30th of September, 1838:		
In the hands of disbursing agents, was - - -	3,546 50	
Received since, by special requisitions on the Treasury, and placed in the hands of disbursing agents	68,553 89	
Total - - - - - - - - -		72,100 39
Of this sum there has been expended in completing the hospital at Fort McHenry, and in the erection of hospitals at Fort Columbus and Sackett's Harbor -	15,748 65	

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COOPER MEDICAL C

Leaving a balance in the hands of disbursing agents of		56,351 74
The amount of the appropriation for preventing and suppressing Indian hostilities remaining on the 30th September, 1838:		
In the hands of disbursing agents, was - - - -	1,270 46	
Of this sum there has been expended in the purchase of extra medical and hospital supplies for the troops in the field - - - - - - - - -	219 41	
Leaving a balance which was replaced in the Treasury of - - - - - - - - - - -	1,051 05	
There has also been received within the past year:		
From the appropriation for the selection of sites for marine hospitals on the western waters (by a special requisition on the Treasury) - - - - - -	387 25	
Of this sum there has been expended in the payment of the accounts of agents employed in selecting sites for the hospitals - - - - - - - -	387 25	
From the appropriation for carrying into effect a treaty with the Cherokee Indians (by a transfer warrant in favour of the Medical Department) - - -	4,124 78	
Of this sum there has been expended in the purchase of medicines and hospital stores, to replace supplies furnished by the Medical Department to the emigrating Cherokee Indians - - - - - -	4,124 78	
And from the Quartermaster's Department on account of sales of medicines, hospital stores, &c. in the interior of Tennessee - - - - - - -	417 25	
Of this sum there has been expended in renewing the supply of medical stores - - - - - -	417 25	

In addition to the sum of forty thousand nine hundred and fifty-seven dollars and eighty-eight cents, which has been expended from the appropriation for the Medical and Hospital Department, disbursements to the amount of three or four thousand dollars, (growing out of the employment of Militia forces and the dispersed state of the regular army throughout Florida and over the northern frontier,) have been made on account of the Medical Department, from the appropriations for suppressing Indian hostilities and the protection of the northern frontier, by the Quartermaster's Department and other disbursing agents of the Government, in the purchase of extra medical supplies, and in the payments of physicians temporarily employed in the public service; but as the most of these debts were contracted without the knowledge or consent of this department, and the accounts are not rendered to this office, an accurate statement of the transactions and of the expenditures cannot be given in this report. The amount of money on hand at the close of September, 1838, together with the sum of the receipts within the past year, then being:

On account of the appropriation for the medical and hospital department - - - - - - - -	68,476 21
On account of the appropriation for erecting hospitals at military posts - - - - - - - -	72,100 39
On account of the appropriation for suppressing Indian hostilities - - - - - - - - - -	1,270 46
On account of the appropriation for the selection of sites for marine hospitals on the western waters -	387 25

On account of the appropriation for carrying into effect a treaty with the Cherokee Indians	4,124 78	
On account of sales of medicines, hospital stores, &c.	417 25	
Total		146,777 37
And the sum of all expenditures, together with the money replaced in the Treasury during the same period, being:		
Under the appropriation for the medical and hospital department	36,957 78	
Under the appropriation for erecting hospitals at military posts	15,748 65	
Under the appropriation for preventing and suppressing Indian hostilities	1,270 46	
Under the appropriation for the selection of sites for marine hospitals on the western waters	387 25	
Under the appropriation for carrying into effect a treaty with the Cherokee Indians	4,124 78	
And out of the money arising from the sales of medical stores, &c.	417 25	
Total		58,906 17
There remained on the 30th September, 1839, in the hands of disbursing agents and in the Treasury of the United States, applicable to future disbursements, the unexpended sum of		87,871 20

The number of cases of indisposition which have been under treatment by the medical officers of the army and private physicians temporarily in the service of the United States, during the last twelve months, was 22,849; 22,248 of which occurred within the past year; 619 being cases that remained of the preceding year. Of the whole number of persons reported sick 21,940 have been restored to duty, 131 have been discharged the service, 55 have deserted, and 214 have died; leaving, on the 30th of September, 1839, 909 still on the sick report.

From the monthly returns and other reports it is estimated that the aggregate mean strength of the army for the last year was 8,950; and as the number taken sick during the year was 22,248, and the aggregate of deaths was 214, it will appear that the proportion of cases of disease to the number of men in service was as $2\frac{1}{2}$ to 1, or 249 per cent.; the ratio of deaths to the number of men as 1 to 42, or $2\frac{4}{10}$ per cent.; and the proportion of deaths to the number of cases treated as 1 to 107, or a fraction less than 1 per cent.

From our observations it is found that the troops which have taken the field from southern stations, have suffered less from sickness, and lost fewer men by disease, since they came into Florida than while they were stationary at their posts. Nor have the corps from the north suffered from disease and death to the extent that is generally believed.

The reports in this office, from every section of the United States, show this result; and as I am satisfied of the fact, I deem it to be my duty to correct an error of opinion that seems to pervade the country to the manifest injury of the military service.

In further illustration of this subject the statements marked C and D are submitted.

The law requiring an examination of candidates for appointment and of assistant surgeons for promotion in the medical department of the army, has been rigidly enforced.

Two junior surgeons whose examination for promotion had been unavoidably deferred, and three assistant surgeons of five years' standing, were ordered to present themselves, and thirty-six applicants for appointment to the medical staff of the army, were invited to appear before the medical board lately in session at New York. The surgeons and assistant surgeons having undergone a thorough examination upon all the branches of medical science, and received a favourable report from the board, the first two were sustained in their advanced position, and the last three rendered *legally* qualified for promotion. With the candidates for admission into the army, however, the result of the examination was very different. Of the thirty-six who were invited to appear before the board, twelve declined the examination, (two after having reported to the board,) two were excluded on account of their age, and twenty-two were examined; and of these last, five only were found to possess all the qualifications essential to an appointment.

It may be that we have erected too high a standard of merit—that too much is exacted from the human intellect; we are not conscious, however, that more has been asked, than ordinary talents, a good primary education, and the actual study of the science of medicine, can attain. At all events some few have reached the highest scale of excellence; and while as many of these choice spirits can thus be secured, as will fill our ranks in each succeeding year, we shall not relax in our requirements upon those who claim to be admitted into the medical staff of the army.

But to account for the humiliating result of the examination on the present and on former occasions, we have only to look to the system of education which now obtains in the country.

The facilities of acquiring medical knowledge, or rather of becoming professional men, are so great, that many persons are seduced into an attempt to become physicians, without the basis of an education. There are others again, who having received a good primary education, and also passed through a regular classical or collegiate course, (and thereby rendered qualified for scientific pursuits,) are induced from motives of economy and convenience, or with the view of sustaining institutions of their own State, to enter some of the small medical schools, where they cannot possibly have the advantages of anatomical dissection, (the groundwork of the profession,) or the means of clinical instructions upon an extended scale. A knowledge of the science of medicine is not, like divinity and law, to be acquired by reading books in the closet, and listening to the reading of a course or two of lectures; it can only be attained by seeing and feeling, in connexion with the knowledge acquired from books.

The great multiplication of medical schools in every section of the country, together with the proverbial facilities of becoming licensed practitioners, has so lowered the standard of professional excellence, and so manifestly degraded the medical character of the United States, that the present system will be, it is to be hoped, by a more enlightened public opinion ere long put down. The interest of the country is so much divided by these various institutions, and the patronage to each is consequently so small, that many of our ablest medical men will not accept places in them; were it practicable, however, for the professors to obtain adequate compensation for their services, it would be impossible to find professional men enough of talents and attainments to occupy the several chairs in the innumerable medical schools in every town, village, and cross-road place, throughout our States and Territories.

Every officer of this department has been almost continuously on duty, seldom more than two at a time on leave of absence, and in no instance more than four even temporarily absent from duty. The duty in Florida, particularly, has been so irksome as to produce some murmuring from two or three individuals of the corps; but as those persons generally grumble the most who have the least cause of complaint, and are the least deserving perhaps of special consideration, I have not permitted those symptoms of dissatisfaction to interfere with the general arrangements of the department, or to paralyze for a moment our efforts to meet the actual requirements of the service.

The service in Florida to most of the medical officers employed there, has been, indeed, not only irksome but exceedingly laborious and hazardous, many of them having from the very dispersed state of the troops to give their attendance to two, three, or more posts and stands; frequently passing from one station to another without an escort, and occasionally under the fire of the enemy.

Among others whose lot it was to perform more than ordinary duty, was the accomplished surgeon, Richard Clark, who, in the height of his usefulness, was lately cut off by disease.

Doctor Clark having been called to a distant post, where the whole command, officers and men, lay prostrate from disease, he at once gave all the energies of his mind and body to the assistance of his suffering comrades; and while thus engaged in administering, by day and by night, to the diseases and to the wants of the sick, he was inhaling the noxious vapours of the place, even to his own destruction. After rendering much assistance, and indeed, all the aid practicable, he himself sank to the ground, and in a day or two afterward yielded up his gallant spirit, a martyr to the calls of humanity and his country's good.

For this very severe and perilous duty—this extraordinary devotion to their country's cause, (this extra service being peculiar to themselves, and not absolutely to be required of them,) these officers are entitled to a full measure of praise; and I do not hesitate thus to express the high sense that I entertain of their public services and of their public worth.

In obedience to your instructions, a commission consisting of three medical officers was appointed to examine the banks of the Ohio river, between Pittsburg and Wheeling, and also the shores of Lake Erie, with the view to the selection of sites for marine hospitals. The board having completed the reconnoisance of the country designated, and collected a mass of useful information touching the subject of inquiry, made a detailed report of its proceedings, recommending a change of location for the hospital on the upper Ohio, from Wheeling to the vicinity of Pittsburg, while it sustains the decision of the former board in favour of Cleveland over Presque Isle and other points, as the site for the hospital on the shore of Lake Erie. As this report takes a different view of several matters and circumstances from that of the former commission, I beg leave to recommend them both to your attentive perusal and consideration.

From these two able reports and the various statistical and other documents accompanying them, the President will receive all the lights upon the subject of inquiry of which it is susceptible, and can consequently determine understandingly upon the points at which the contemplated hospitals shall be erected.

I have, within the past year, with the assistance of one or two medical officers, brought up almost all the back business, which had for years, in consequence of the want of force in the office, been accumulating upon the department.

The accounts of every officer of the department, and of private physicians in the service of the United States, as far as this office is concerned, has been brought up and closed to the 31st of March; and, with the exception of four or five, whose returns have not come in, even to the 30th of September of the present year.

I have also had prepared, or have now in a state of forwardness, a meteorological register, embracing thermometrical observations, for a series of years, in every section of our States and Territories; also, a report on the vital statistics of the army and the medico-topography of the military stations, extending over a period of twenty years; all which will be ready for the press in a few days, should their publication be authorized by Congress or by the Department of War.

I beg leave, in conclusion, to call your attention again to the fact that the services of another clerk are indispensable to this office. While I have the control of the department I shall keep the business up; and if I cannot obtain the aid of a regular clerk, I must call into requisition the occasional services of one or more of the medical officers of the army.

All which is respectfully submitted. TH. LAWSON,
Surgeon General.

Hon. Joel R. Poinsett,
Secretary of War, Washington.

ABSTRACT C.

Showing the number of cases treated and the number of deaths in the United States Army, during the year terminating the 30th September, 1839.

Remaining at last report.				Taken sick or received in hospital during the year.																					
				Fevers.																					
Sick.	Convalescent.	Total.	Quarters of the year.	Intermittent.	Remittent.	Synochal.	Typhus.	Acute bronchitis.	Pneumonia.	Pleurisy.	Phthisis.	Catarrh.	Cynanche.	Cholera.	Colic.	Gastritis.	Enteritis.	Diarrhœa.	Dysentery.	Hepatitis.	Rheumatism.	Ophthalmia.	Gonorrhœa.	Syphilis.	Epilepsy.
312	289	601	Fourth quarter, 1838	919	111	13	8	37	13	26	10	521	74	24	50	12	7	628	239	16	195	91	86	71	15
			First quarter, 1839	439	68	11	1	55	49	77	19	523	78	24	60	23	4	305	200	11	305	71	83	42	9
			Second quarter, 1839	702	115	21	2	11	17	43	18	418	50	73	63	31	16	242	383	14	242	86	56	58	17
			Third quarter, 1839	1,701	462	52	2	4	25	25	23	446	64	85	167	13	9	287	366	11	287	81	149	98	12
			Total -	3,761	756	97	13	107	104	171	70	1,908	266	206	340	79	36	1,462	1,188	52	1,029	329	374	269	53
Deaths from each disease			Fourth quarter, 1838	4	9	-	2	-	3	-	5	-	-	-	-	1	1	10	8	-	1	-	-	-	1
			First quarter, 1839	-	-	-	-	-	1	1	10	-	-	-	-	1	1	4	6	-	-	-	-	-	1
			Second quarter, 1839	-	6	-	-	-	2	-	4	-	-	-	-	-	-	4	2	-	-	-	-	-	1
			Third quarter, 1839	2	30	-	4	-	1	-	3	-	-	-	-	1	2	8	4	-	-	-	-	1	1
				6	45	-	6	-	7	1	22	-	-	-	-	3	4	26	20	-	1	-	-	1	4

ABSTRACT C—Continued.

Quarters of the year.	Taken sick or received in hospital during the year.										Total.	Aggregate.	Returned to duty.	On furlough.	Discharged service.	Deserted.	Died.	Remaining.		
	Apoplexy.	Delirium tremens.	Nyctalopia.	Dropsies.	Scorbutus.	Ebriety.	Hernia.	Wounds and injuries.	Ulcers and abscesses.	All other diseases.								Sick.	Convalescent.	Total.
Fourth quarter, 1838 -	1	7	5	1	7	63	5	498	185	767	4,713	5,314	4,560	3	19	26	57	343	306	649
First quarter, 1839 -	–	8	15	7	8	70	5	528	176	789	4,153	4,802	4,150	2	57	5	37	297	254	551
Second quarter, 1839 -	1	6	21	8	65	93	14	519	215	1,022	5,253	5,804	5,027	61	36	8	42	228	402	630
Third quarter, 1839 -	3	22	12	12	31	128	9	832	501	1,105	8,129	8,759	7,709	28	19	16	78	362	547	909
Total -	5	43	53	28	111	354	33	2,377	1,077	3,683	22,248	*22,849	21,446	94	131	55	214			
Deaths from each disease. Fourth quarter, 1838	1	1	–	1	–	2	–	2	2	3	57									
First quarter, 1839	–	1	–	3	1	2	–	–	–	5	37									
Second quarter, 1839	1	2	–	2	4	2	–	2	1	9	42									
Third quarter, 1839	1	2	–	1	1	1	–	9	–	6	78									
	3	6	–	7	6	7	–	13	3	23	214									

* The aggregate for the year is not the result of the addition of the aggregate of each quarter, but of the total "remaining at last annual report," added to the total number of cases occurring within the present year.

TH. LAWSON,
Surgeon General.

ABSTRACT D.

Exhibiting the relative proportion of disease and mortality among the troops serving in Florida and those stationed at the prominent posts in other districts of the United States, during the year terminating the 30th of September, 1839.

District of observation.	Mean strength.	Cases.	Deaths.	Ratio of mortality, per centum of mean strength.	Proportion of deaths to the number treated.
North and East	1,900	4,787	37	2	1 in 129
North West -	1,220	2,762	11	$0\frac{9}{10}$	1 in 251
South West -	1,461	4,622	65	$4\frac{3}{10}$	1 in 71
Florida -	3,092	6,510	73	$2\frac{4}{10}$	1 in 89

With the view to attain the nearest approximation to a correct result in regard to the climatorial influence of different regions of our country, all deaths that come under the class of casualties, have been excluded in this table. As the quarterly reports of sick in Florida, include, independently of the regular troops, a few volunteers, sailors, and labourers employed in the Quartermaster's Department, it has been found, in a few cases, impracticable to make an exact separation. The deaths given, however, are entirely confined to the regulars. In regard to the invalids sent out of Florida, it is ascertained that the ratio of mortality is not materially affected from this cause; for, during the present year, no more than fifty-four were carried to the north; and of these, two only, one of whom was excessively intemperate, died.

TH. LAWSON, *Surgeon General.*

AN ESSAY ON THE MEANS OF IMPROVING MEDICAL EDUCATION AND ELEVATING MEDICAL CHARACTER.

BY ANDREW BOARDMAN, M.D.

[Presented to the Faculty of Geneva College, January, 1840.]

INSCRIPTION.

To Professor Rogers, M.D., whose achievements as a surgeon have done honour to the
healing art, and whose adherence to whatever is just and liberal in medical
politics has been unswerving, the following essay is inscribed
by his obliged friend and former pupil,
ANDREW BOARDMAN, M.D.

INTRODUCTION.*

The views maintained in the following thesis were formed from observation and reflection suggested by the difficulties which I had to encounter in attempting to become fitted for the practice of medicine. The inferences which I have drawn from the facts stated, and the propositions which I make may be or may not be sound; but as the facts themselves are undeniable, the necessity for reform cannot be questioned, and if the following essay have no other effect than that of increasing the interest of the profession in the momentous cause of medical reform, of directing to the subject minds better fitted for the investigation, and of eliciting views more in accordance with sound principles, I shall deem myself repaid a hundred fold.

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* It will be seen by the reader, at once, that this Introduction was written subsequently to the Dissertation which follows, and which is now published in the form in which it was presented to the Faculty of Geneva College.

I have stated that my own experience prompted the investigation of which the following essay is the result; and as facts accurately stated are to the philosophic mind of the utmost value and importance, I respectfully invite attention to a few of the items of that experience.

On formally commencing my medical studies, I attended a private course of anatomical lectures delivered by a gentleman of fine talents and of great professional zeal. With this course I was much pleased and benefited. Everything was described and demonstrated most clearly and satisfactorily; and the descriptions and demonstrations were repeated by the students, subject to the correction of the instructor. In this class were a number, who, as I learned from themselves, paid for the college ticket, that they *might graduate*, but seldom attended the college lectures; and they paid for and attended the private course, that they *might learn anatomy.* I was at once struck with the injustice of making them pay for lectures which they did not attend, and of counting valueless those lectures, dissections, and demonstrations which were so admirably fitted to give a thorough knowledge of the human structure. On attending college lectures myself, I was more deeply convinced of this injustice on finding, by comparison, that *cæteris paribus*, private lectures were superior to public ones as means of acquiring anatomical knowledge. In the private class everything may be seen clearly by every student. In the anatomical theatre, on the contrary, the nearest students cannot see distinctly the parts alluded to; and those at a distance can hardly see them at all. I think I observed distinctly another important fact, namely, that those who depended for support on the voluntary attendance of pupils were more zealous and industrious teachers than those who were favoured and protected by a chartered monopoly. Indeed I have paid for lectures at public institutions which would not have been tolerated from private lecturers. I paid for one course on Physiology which embodied the science, not as it now exists, but as it existed a long time ago; and for another course which was not delivered. I paid for one course on the Theory and Practice which consisted, to a great extent, of historical accounts and laboured refutations of all the defunct and entombed medical absurdities of which the annals of our art speak; and for another course which consisted chiefly of verbatim extracts from Eberle's and from Mackintosh's theory and practice. I paid for a course on Therapeutics in which I could accompany the professor in Eberle and Dunglison, word for word through entire lectures; the plagiarism extending to Dunglison's numerous poetical quotations. I do not wish to convey the idea that the lectures at chartered institutions are generally unworthy of patronage. I have attended lectures at such institutions which have been most able and beneficial, and which have afforded almost unmixed and unanimous satisfaction. I deem much in the present system of medical education to be unsound, but yet it may, by talented and zealous men, be rendered productive of gratifying results. That it is liable to great and manifold abuses, however, is undeniable, and to illustrate this still further, I state the following facts without note or comment.

I attended the lectures of Geneva College during the session of 1839–40, and graduated at the end of the term. I here introduce a comparison between the promises held out in the college circular as inducements to medical students, and the mode in which those promises were fulfilled.

PROMISE OF THE CIRCULAR. That the course on Chemistry should be delivered by a doctor of medicine.

Fulfilment. The Chemical course was delivered by a doctor of divinity, who acknowledged, in my hearing, that he had often to lecture from notes which he had not looked at for five or six years before bringing them into the lecture-room.

PROMISE OF THE CIRCULAR. That a course of lectures on Medical Jurisprudence should be delivered.

Fulfilment. We were not favoured with a single lecture on the subject.

PROMISE OF THE CIRCULAR. That there should be a course of lectures on Physiology.

Fulfilment. No such course was delivered.

PROMISE OF THE CIRCULAR. That the Anatomical class should have a full supply of subjects for dissection.

Fulfilment. Not *a single subject* was provided for dissection during the *whole session*, though students deposited money for them at the rate of $10 a subject at the commencement of the term. Nor was there more than a single subject, and that a very poor one, used for demonstration during the entire anatomical course.

PROMISE OF THE CIRCULAR. That the students, attending Geneva College, should have the great advantage of clinical instruction at THE WESTERN HOSPITAL, an institution connected with the medical school.

Fulfilment. The Western Hospital consisted of the second floor of an old building labelled in large letters, "GENEVA SHOE STORE," and during the whole session it contained *not one* medical patient, and *only one* surgical patient. I was house surgeon, and performed my daily rounds for a considerable time, by going from one side of the bed of a quiet old negress to the other. Attracted by the reputation of the surgical professor, however, many patients came in from the surrounding country, on whom operations were performed before the class.

PROMISE OF THE ANATOMICAL PROFESSOR. That a special diploma should be presented to the best practical anatomist of the graduating class.

Fulfilment. Such diploma with the heading "*palmam qui meruit ferat*," was made out in my favour; but no means of acquiring practical skill having been afforded, and no tests of practical skill having been applied, I declined the proffered honour.

PROMISE OF THE CIRCULAR. That a gold medal should be presented to the author of the *best thesis* on any medical subject.

Fulfilment. On this subject I am not a competent witness, and, therefore, take the liberty of introducing the following copy of a letter addressed by professor Rogers to a few of his friends :

GENEVA, 20*th January*, 1840.

Dear Sir,—I sit down this evening to state briefly the cause of my resigning the chair of Surgery in the Geneva Medical College, that you may be enabled to give an authentic explanation to any of my friends who may inquire concerning it.

After accepting the Professorship of Surgery, I engaged to place, annually, at the disposal of the faculty, a gold medal for presentation to that graduate who should produce the *best thesis* on some medical subject. During last summer I received a letter from a former student of mine (Mr. Boardman), announcing his intention of graduating at Geneva; and inquiring whether the thesis would be judged of by the accordance of their views with those of the professors, or by the comparative ability with which the writers maintained their opinions, and by the comparative clearness, force, and correctness of style; intimating, at the same time, that if the latter were the case, he should advocate some views adverse to the present system of medical education.

With the sanction of the only collaborator then in Geneva, I replied, that we were not so illiberal as to expect that gentlemen should conform their opinions to ours, and that, in awarding the medal, we decided exclusively on the comparative merits of the theses as literary productions.

I shall not trouble you with a detailed account of intermediate proceedings, but briefly state that Mr. Boardman came to Geneva, and in due time presented his thesis, that one professor immediately stated that it had great merit, but that a thesis maintaining such views would not be permitted to take the medal, whatever might be its intrinsic merits. The others spoke more liberally, but decided on the same grounds; thus, in fact, putting his thesis out of the pale of competition, and, accordingly, notwithstanding our printed assurance, notwithstanding the personal assurance given by myself and another professor, that merit in composition and ability in writing would form the exclusive grounds of decision, the medal was awarded to a production which no member of the faculty will hazard his reputation by placing on an equal footing with Mr. Boardman's in these respects. The preferred thesis has merit, but there is in it nothing original, no striking views or sustained argumentation: the style is verbose, unequal, and sophomoric, full of scraps of Latin, and allusions to the heathen mythology. The rejected thesis is grave, thoughtful, and argumentative, indicative of an observant and sagacious mind: the style is clear, forcible, and mature, and though the positions are bold, they are maintained with courtesy.

Under the circumstances no course was left me to pursue but that of withdrawing my name from a transaction in which there appeared to me a violation of honour and justice, and an attempt to crush instead of encouraging an inquiring and independent spirit. Yours, very sincerely,

D. L. ROGERS.

I shall merely add to the above letter, an extract from one which I addressed to another professor on the occasion of his making to me a proposition in the name of the faculty.

"Immediately after presenting my thesis, I was informed by one professor that the subject would inevitably damn it without the slightest reference to its merits, and you yourself acknowledge that you took into consideration in your decision, the circumstances which, I had been assured, would be left out of view. I mention these facts to show, sir, that I object not to your judgment, but to your rule of judging—that I feel wronged, not because another has been preferred, but because I have been put out of the pale of competition."

A medal is of small value, but justice and freedom of opinion are of paramount importance.

INAUGURAL DISSERTATION.

THE healing art is doubtless coëval with the breach of those laws, on the observance of which immunity from disease depends; and we need no fable from the heathen mythology to account for its origin. Whoever first attempted to relieve the physical sufferings of a fellow being was the father of physic. Ignorant of internal organization and function, and to a great extent of external agents and influences, remedial efforts would at first be confined to the soothing attentions of a sympathizing spirit, a remedy which may yet be classed as not only the most agreeable, but as one of the most efficient of therapeutic agents. The necessity of the healing art sprung then from the misfortunes, the ignorance and the wickedness of man, and the art itself from what may well be called the divinity of human nature—intellect prompted to exertion by benevolence and affection.

Medical men and their profession have often been the butt of the humorist's gibes and the satirist's sarcasms, and not undeservedly in all cases. But a change has come over the profession: the days of bag-wigs, powdered heads, lengthened solemnity of visage and inveterate technicality of phrase, are gone, we hope, forever. The time, too, has passed away, when oil from kittens boiled alive was considered an admirable application to wounds; when toads roasted alive were administered for asthma, and the hairs of mad dogs for hydrophobia; when the powdered thigh-bone of an executed felon was considered a specific in dysentery, and ointment was applied to the inflicting weapon in order to cure the wound; when physicians placed confidence in phylacteries, and watched with intense anxiety the influence of black and white days and the aspects of the stars; and when they hurried their unfortunate patients to an untimely grave in attempting to quench the fires of fever and inflammation, by diligently feeding the consuming flame. To confound medicine as now with medicine as then taught, would be as illiberal and unjust as to confound chemistry with alchymy, astronomy with astrology, or, I must add, phrenology with palmistry.

But though we cannot agree with the writer who defines physic to be the art of amusing the patient while nature cures the disease; nor with him who asserts that almost the only resource of medicine is the art of conjecturing, it cannot be denied that much uncertainty does in reality exist. The talented editor of the Medico-Chirurgical Review recently asserted, (April, 1839,) that "one half of our practice is guess work;" and if he meant his remark to apply not to the art itself, but to the art as practised, many, doubtless, will subscribe to its truth.

Much, however, that has been *popularly* said of the uncertainty of medicine, has arisen from misconceiving its true objects. When a beloved parent or child is lying on the bed of sickness, or a friend who has gilded the pathway of life with the blessed light of affection, is on the brink of the grave, grief, in its unreasoning paroxysms, asks why our art is not omnipotent; forgetting that it is not for man to set aside the laws of nature, rejuvenate the old, and restore the broken constitution to healthy vigour. Physic possesses not, nor does it look for an elixir of immortality: it merely claims to be the application of such means as accumulated experience, cautious observation and sound judgment have proved efficacious in ameliorating or curing disease; and its perfection would consist in a knowledge of the most certain, ready, and least painful mode of restoring health when restoration is possible, and of the means of soothing pain and prolonging life to the utmost, when restoration is impossible. In view of this definition, it is not too much to say that our art may yet approximate closely to perfection; and, even now, it may be questioned whether uncertainty is not much more in physicians than in physic.

This word uncertainty is often employed, as though it were relative, not to man's ignorance, but to nature's operations. In these, however, whether on the most minute or expanded scale, there is no uncertainty, indefiniteness or chance-play. Whenever, therefore, it is said, that, on any point, uncertainty exists, it merely shows that, on that point, our knowledge of nature is incomplete. There was a time when the motions of the comets were considered irregular and lawless as those of the winds are now commonly considered, but our knowledge has been enlarged, and we can calculate their revolutions with perfect precision; and the time may come, it seems, indeed, near at hand, when it shall be demonstrated that every movement of the air, whether in the form of a zephyr, a gale, or a tornado, depends for its course, intensity, and duration, on laws as invariable as those which buoy the sun upon nothing, and give speed and invariableness to the wingless and compassless comets. In medicine, the physician's assertion that anything is uncertain, is, in truth, an acknowledgment, that, on that point, his knowledge is only partial. No disease occurs which has not a certain adequate cause, though of that cause we may be ignorant, which has not its chief seat in some definite part of the system, though of that seat we may be unable to satisfy ourselves, which has not produced, at any given time, a precise amount of functional derangement or organic change, though our idea of that amount may be most erroneous; and for which there exists not, in the nature of things, a remedial course, the most appropriate that can be pursued, though we, in our ignorance, may honestly pursue a course much less efficacious, or which shall even aggravate instead of ameliorating or curing.

If then there is no uncertainty in nature, we must seek for its sources in man alone, and these may be reduced to three.

1. *The imperfection of existing knowledge.*—The present resources of our art are immense. How quickly and surely do diseases quit or relax their grasp when encountered by learning, experience, and judgment. Then is it demonstrated beyond controversy, how much the healing art can achieve. Still it must be owned, that if the present collective knowledge of the profession were centred in one man of the greatest experience and soundest judgment, he would sometimes be in unpleasant dilemmas from lack of more knowledge. For this we have no remedy but that of winning further discoveries from nature by careful observation and rigid induction.

2. *Our constitutional incapacities.*—There are great constitutional differences in the mental fitness of men for the practice of medicine. It needs in the intellect a combination of the observing and reflecting faculties, and in the moral nature, a union of caution, courage and sympathy, which is not common. Against mental incapacity the profession might, in some degree, protect itself, by rendering the conditions of admission into its ranks, such as would exclude those who possess not a fair share of the requisite intellectual qualities.

3. *Our lack of such knowledge as exists, and our inability to reduce to practice such knowledge as we possess.*—Over the first source of uncertainty we have no present control; our control over the second is limited; over this, however, it is great, and as the subject of medical education occupies at present the attention of practitioners throughout the union, as everywhere such education is acknowledged to be imperfect, and propositions of reform are made, I shall dwell chiefly in the present essay on the deficiency, inappropriateness and reformation of medical education.

I am aware that what I am about to advance may, at first, appear ultra and visionary, but being profoundly convinced of the truth and importance of my views, I pray that they may not be disregarded, because of the humble source whence they emanate. I adduce facts and invite scrutiny, arguments and beg for calm and serious consideration. I am merely an inquirer, desirous of taking my stand on the broad foundations of human and external nature, and of asking the opinions and practices which I consider the *why* of their existence.

The two most prominent propositions which have been made for the purpose of elevating medical character, and improving medical education, are:—

1. The requirement of a knowledge of Greek and Latin, as a prerequisite to a medical degree.
2. One year's extension of the prerequisite period of study.

The great end of medical education is to enable a class of men to discriminate and cure disease. This is, indeed, a self-evident proposition, but one, which, like the axioms of geometry, is pregnant with important inferences. Let us inquire, then, whether a knowledge of Greek and Latin is an important means for the attainment of this great end. A word is of value only as the representative of an idea. Now if a student possesses an idea perfectly, it is no addition to his knowledge of anything but mere sounds, if he learn a hundred modes of expressing that idea. If, then, these languages be necessary to the physician and surgeon, it must be by conveying to them ideas concerning their art which cannot be conveyed in our mother tongue. But are there any such ideas? Neither Hellenist nor Latinist will affirm that there are. The moderns surpass the ancients in everything relating to medicine, surgery, and the collateral sciences. Anatomy, general, special and pathological, physiology and chemistry, were almost unknown to the latter. The student who shall read "the prince of Latin poets," as a preparation for practice, may, indeed, learn that bees are generated from putrefaction; but, suppose he wants to become acquainted with some disease, and the proper mode of treating it? Would he be better able to tell the appearance of the tongue, to count the pulse, to discover the seat and kind of pain, the nature of the secretions and excretions by a knowledge of Greek and Latin? Surely not. Again, would he be able to tell the sort and amount of medicine better, the temperature of a proposed bath better, the quantity of blood to be taken away, and the manner of taking it better, by a knowledge of Greek and Latin, than without such knowledge? The very stating of the question must suggest a negative answer. Suppose an artery has to be tied for aneurism? would the question be whether the surgeon could decline *penna* or conjugate *amo?* O, no! But whether he knew the nature and situation of the superincumbent parts, the sort of ligature to be applied, and the manner of applying it, of meeting contingencies, restoring the circulation, and keeping within due limits the subsequent inflammation, would a knowledge of Greek and Latin give him steadiness of hand and eye, coolness and courage? And suppose an operator should take up a nerve instead of an artery, would any one think of ascribing his blunder, in the remotest degree, to his ignorance of the ancient classics? Not even the most strenuous advocate of the proposition which I am now considering.

It is true, that there is a technical language employed by medical men derived principally from the dead tongues. But that is learned at the time a knowledge of the things signified is learned, and neither Hellenist nor Latinist can learn it in any other way; and, though the classical scholar would often be aided in the recollection of terms by his previous education, yet it is undeniable that the derivation of our technical words often affords no clue whatever to their meaning. What aid does the student derive from knowing that sacrum is derived from *sacer*, sacred; fibula from *figo*, to fasten; clavicle from *clavis*, a key; tartar from *tartaros*, infernal; *ranula* and ranunculus from rana, a frog; scrofula from *scrofa*, a swine; artery from *aer*, air, and *tereo*, to keep. Nay, there are many diseases so named, that he who understands the derivation of the words used in naming them, is more likely to misconceive their true nature, than he who merely knows their names as the exponents of certain pathological conditions. I may instance the words typhus and gonorrhœa; also cholera, as applied to the late epidemic; nyctalopia and hemeralopia, as commonly employed. But then the elegance, the euphony of these languages! Let these qualities be admitted to their fullest extent—what then? I answer, that they will be most necessary to the physician when he has to talk in Greek or Latin periods, or to write his prescriptions in hexameters, but that that time has not yet arrived.

But, say the advocates of this proposition, the study of these languages is useful in training the mind. I do not deny this, but maintain, that, as a preparation for the practice of medicine, the mind might be much better and more usefully trained, by a thorough study of our native tongue; by the study of mental and moral philosophy, political economy, the general principles of law, and various branches of natural history. But even admitting that the study of languages should be insisted upon as a prerequisite of practice, the question—what languages? would necessarily be suggested; and the preference could not be given on any grounds of utility, to the Greek and Latin over the French and German. In the two latter, new works of great value are continually appearing; whereas, in the two former, hardly any new work, either literary or scientific, is now published.

That a knowledge of these languages is not necessary to great success in the practice and advancement of our art appears from this:—Some of the greatest geniuses that medicine can boast knew little of any language but their mother tongue. Hippocrates himself knew no Latin, though, for a very obvious reason, he was acquainted with Greek; but neither Hunter nor Armstrong knew either Latin or Greek. The latter, indeed, for this ignorance, was, on his removal to London, rejected by the College of Physicians, notwithstanding his great medical attainments and ability. Dr. Christison, professor of Materia Medica in the University of Edinburgh, took the highest honours for Greek, both at school and college; yet, in his testimony before a parliamentary committee of investigation, he affirmed that since entering on the profession of medicine he had found so little occasion to put his Greek to practical use, although pursuing the various branches of medicine as objects of scientific study, that he did not believe that he could, at that moment, translate a single passage that might be placed before him.

From these considerations I conclude, that whatever may be the desirableness of a knowledge of the dead languages, as a prerequisite to other pursuits, to insist on such knowledge as a prerequisite to the practice of medicine would be unjust and irrational.

Let us now examine the second proposition; namely, an extension of the time of study from three to four years. This might be efficacious, could its adoption secure a greater amount of study and observation; but in this it would most probably fail. It is true, indeed, that a man can obtain more knowledge and practical skill in four years than in three; but it is also true, that he may merely proceed with his studies more lazily and leisurely, and thus impair the power of concentrated attention. We want some better test of a man's fitness for a medical degree than that he has had his name on a physician's book, three, four, or any other number of years. Indeed, this proposition is founded on the erroneous notion, that man's acquirements are in the direct ratio of the time they may be studying or pretend to be studying; but it is matter of common observation, that of two who are equally assiduous, one can acquire knowledge and skill much more rapidly than the other, and that of two, who have equal capacity and equal facility of acquirement, the one may be much more assiduous than the other. To subject all capacities and all degrees of assiduity to the same unbending rule of time, is, I think, unjust; it breaks down all the natural distinctions between lassitude and energy, indolence and industry, talent and imbecility.

Having given my reasons for believing the proposed changes to be inadequate and inappropriate, I proceed to survey the present mode and extent of medical education, and prerequisite qualifications of a graduate; and to explain my views of what medical education should be, and what prerequisites should constitute the *sine qua non* of graduation.

By collating the circulars of the various medical schools throughout the United States, it will be found that each has professorships separate or conjoint for the teaching of—1. Anatomy. 2. Physiology. 3. Theory and Practice. 4. Materia Medica. 5. Surgery. 6. Obstetrics. 7. Chemistry. 8. Medical Jurisprudence. And that in each the prerequisites of a diploma are:—1. Three years study with a regular practitioner. 2. Attendance on the lectures of some chartered school during two sessions. 3. The presentation of a thesis on some medical subject. 4. The approval, after examination, of the medical professors whose lectures the candidate has attended.

To the physician, as such, man is the centre of the universe. He should study the human frame in health and disease, and then study all things which relate to, or have an influence upon it. He should be so acquainted with the human body, as to see, with conception's eye, all its various parts in their true relative position. This constitutes anatomical knowledge. He should be acquainted with the operations of these various parts, their modes and purposes of action; this constitutes physiological knowledge. He should be acquainted with the influence of all physical and moral agents on healthy man; with the properties of the *materia alimentaria*, of air, temperature, occupation; with the influence of location, seasons and emanations; that he may know how to keep the whole organization in a state of health: this constitutes hygienic knowledge. Anatomy, physiology, and hygiene, form the group of studies which have for their object a knowledge of what man is, and of what he should be, and of the mode of keeping his organs in healthy and harmonious play. They are the foundation of all correct knowledge and practice, making known as they do those standards in human and external nature, to remedy or obviate departures from which is the peculiar object of our art. The physician should earnestly direct attention to derangements of function, alterations of structure, the aberrations from hygienic laws on which such derangements and alterations depend, and to the remedial means required to restore the body to physical soundness. All knowledge relating directly to these things, is comprised under the terms pathology and therapeutics. He should be acquainted with the properties, relations, and mode of preparing remedial agents. Materia Medica, Pharmacy, and, to a certain extent, the collateral sciences, are, therefore, important branches of study. He should be acquainted, too, with whatever relates to Operative Surgery, Obstetrics, and Medical Jurisprudence.

By comparing the subjects taught at our medical schools with the above exposition of the attainments necessary to constitute an accomplished practitioner, it will be seen that the objects sought to be attained are almost sufficiently comprehensive. There is, indeed, one important omission, that is, of Hygiene, which comprises knowledge of the utmost importance to the practitioner, and ought, therefore, to form an essential branch of medical education. If, then, the objects sought to be attained are almost sufficiently comprehensive, the inefficiency of medical education must be looked for in the mode in which it is conducted. To this point, then, let us now turn our attention.

The examination which a candidate has to undergo previous to receiving the highest medical honour, and being pronounced most learned and most worthy, is simply of the following nature. During the college terms, the professors say certain things, and at the examination they ask certain questions, in order to ascertain whether what they have said be recollected by the candidates, and he who can say back the sayings of the professors with the most accuracy and readiness, passes with the greatest applause, notwithstanding that this is a feat performable by men who are unfit both by mental constitution and education to undertake the treatment of disease. It is not necessary that it should appear in proof that the candidate is an accurate observer and sound reasoner; that he can dissect, can discriminate disease in the sick room, or that he can even apply pressure to an artery, or a bandage to a limb. All that is required is, that he should be a good echo. It is true, that the candidate has to show certificates of having had his name on a physician's book during three years, but there is no test applied to ascertain whether the time has been profitably spent. It is true, also, that practical observation is recommended, but so long as opportunities for such observation are not afforded, so long as the education is not practical, and the examinations are not practical, such recommendation can have but small weight or value. There are many medical schools to which no clinical chairs are attached, and in those to which they are attached, they are considered as merely collateral and subordinate. Even dissection itself is practically treated with neglect, so much so, indeed, that three medical schools, at least, as if expressly to warn students from the dissecting room, state, in their circulars, that it is optional whether the pupil dissect or not; thus, that of one medical school for 1838, says, "The dissecting ticket may be taken or omitted at the option of the student, as it is not required to constitute a full course." It is not absolutely required, I believe, in *any* of the medical schools; but expressly to mention the fact as an inducement to students, shows a reprehensible disregard of true educational principles.

It is a fundamental fact in mental philosophy, that the more directly an object is presented to the senses, or rather, to the mind, through the senses, the more accurate, vivid, and enduring, is its impression. Let a strange flower be described with the utmost minuteness and accuracy : after pondering a day over the description, the conception of its form, size, and colour, would not be as clear as after examining an accurate drawing of it, during a few minutes; but the most accurate representation could not convey nearly as clear a conception as an examination of the flower itself. Of its taste and odour, the drawing, of course, could convey no idea whatever ; and description could convey only faint and fleeting ones. This principle is well understood by students of natural history. They would smile at the simplicity of him who should talk of becoming acquainted with plants and minerals without examining specimens, without studying nature. I have before remarked that a word is nothing in its mere sound. Many idiots might be taught to repeat a thousand sentences, containing momentous principles and noble sentiments, without having the slightest conception of their truth and beauty. The whole nomenclature of anatomy might be learned by one who had never seen further into the body than the skin ; and at an examination, merely verbal, the man who had paid exclusive attention to words, might shine forth far more brilliantly in his answers, than he who had dissected much, but who had been more attentive to things than words. Sarlandière boasts that he has communicated a knowledge of anatomy to medical students in fifteen lessons. He doubtless mistook the nomenclature of anatomy for anatomy itself. Indeed, this is evident from his own words, for, he adds, "I employ preparations (of wax), that there may be no *dissecting* or *delay* whatever during the lessons." Let one who has thus learned anatomy be directed to dissect and demonstrate a region, and his utter ignorance of parts, and their true relative position, will at once be manifested. It is no proof because a student can recount the symptoms of certain diseased conditions from hearsay, that he understands what he recounts, and would be able to recognise the symptoms and ascertain the diseased conditions in the sick room. That a man may recognise objects, appearances, and physical properties, he must have seen, heard, tasted, smelled, and felt for himself, and not by proxy. The truth, that the actual presentation of objects, together with description, is an incomparably better mode of becoming acquainted with them than description alone, is a principle in the science of education which stands out in crystalline beauty and distinctness. This was well illustrated by one of our professors. "Gentlemen," said Dr. Rogers, "I shall explain to you principles and rules of practice from which you may derive great benefit in your professional career. I shall also describe to you the symptoms which characterize the diseases of which I shall treat, but experience constrains me to acknowledge that these descriptions *alone* will be of little service to you. Let the various kinds of tumours be accurately described and afterwards placed before you, the great probability is that you would be at a loss to distinguish them; though after the distinctive marks had been pointed out on the tumours themselves, you would find no difficulty in doing so, nor in recognising the accuracy of those descriptions which before failed to convey to you any accurate conceptions. I make this observation to impress on your minds the necessity and importance of observation. To know disease, gentlemen, you must see it; no description can enable you to understand symptoms and appearances correctly." Than these remarks none could be more correct or important; but that the student may observe he must have opportunities of observation, and the deficiency of such opportunities is one great defect in medical education.

Another principle of mental philosophy clearly deducible from well known physiological laws, and fully established by experience, is this: Before correctness, facility, and certainty of action can be attained in any profession or employment, the mind and its instruments must be well trained to act harmoniously in that profession or employment. Thus the instructions of a Raphael would be insufficient to make a painter; those of a Praxiteles or a Canova to make a sculptor. To paint well, a man must practice painting; and he should do it under the eye of a master, that his errors may be pointed out, and in future works corrected. In music, the theory of notes may be readily comprehended by one unable to distinguish them when struck. Daily instruction for twenty years would not enable an individual to play a single tune with ease and grace except he practiced as well as studied. It is instruction, combined with attentive discipline of the necessary faculties and instruments of motion, which imparts to the musician such sweetness, grace, and facility of execution. It is regular and laborious discipline which gives to the artistes of the ballet such flexibility, ease, and grace. In the drama, it is not alone great natural endowments and deep study that enable the actor to embody in his tone and action the sentiments and passions in all their degrees and combinations. There must be recitation and training, arduous and long continued. Let a man of fine natural endowments and extensive acquirements come before an audience for the first time as a speaker, and his efforts will be comparatively feeble and unconnected. But mark him after he has become habituated to public speaking. How well he marshalls his facts and illustrations, and elaborates his arguments at the same time that he is infusing beauty, pathos, sarcasm, or indignation, into his melting or burning periods. Yet with the necessity of training the faculties by exercise, judicious and long continued, thus plainly stamped on the mental constitution, medical education is conducted as though the student needed little but book and lecture-knowledge to enable him to discriminate from each other the hundreds of varieties of disease, to appreciate in each the modifications produced by age, sex, climate, occupation, temperament, previous condition, recuperative power, peculiarity of habit, idiosyncrasy of constitution, and local complications, to enable him to discriminate when administering medicine, the effects produced by disease from the effects produced by the medicine itself; and also, the proper time for augmenting, diminishing, changing or suspending the remedial course, to enable him to operate, be always ready for contingencies, ever prepared for action. This mode of education is as irrational as it is unsuccessful. No wonder that Professor Spenser should have to complain that so few in the profession are able to make an accurate diagnosis. When the young practitioner is called to the bedside of a patient, with danger threatening, and necessity for prompt, decisive, but cautious action, the fine precepts, the beautiful descriptions, the nice distinctions which he has heard from the professors, take to themselves wings. He has not had opportunities for observation, nor been trained to observe, judge, and act for himself, and he is utterly confused. The sorrowful, the humiliating truth, that he has his most important study, that of nature, yet to commence, sinks deeply into his convictions.

There are two great but opposite evils prevalent in society. The mechanic learns the practical part of his calling without learning the scientific principles on which his practice is founded. The physician learns the science without learning the practice of his art. The one can make a piece of mechanism without being able to explain the theory of its construction. The other can explain principles and theories, but cannot reduce them to operation. The education of the one is useful, of the other learned; in both it is defective, but especially in the latter. The artizan may be said to have the fruit without the flowers; the young physician to have the flowers without the fruit: the former, indeed, are the most beautiful, but the latter the most substantial. It is by the union of theory and practice alone, that man becomes both able and accomplished; and, for lack of this union, the practitioner often finds himself in such a dilemma as the artizan would experience who, after hearing lectures on cabinet-making, should receive a certificate of his learning and ability, and be set to construct sofas before having handled a tool.

The present neglect of whatever is practical in education may be well illustrated by reference to the plan of a medical college not long since issued by the University of the city of New York. This was adopted after long deliberation, and consultation, by letters, with the most eminent practitioners throughout the union; it was intended to surpass that of every other school in the United States; therefore, if we have a right to look for perfection in anything, it is surely in this plan. But what do we find? That the professorships are divided into a graduate group, consisting of one for anatomy, one for physiology, one for theory and practice, one for surgery, one for obstetrics, one for chemistry, and for materia medica; and an extra-graduate group comprising a professorship for *clinical* medicine, one for *clinical* surgery, one for clinical midwifery, one for pathological anatomy, and one for operative surgery and surgical anatomy. On the graduate group of professors the student *must* attend; on the extra-graduate professors he *might* attend if he chose, or let it alone if he chose. That is: this plan provided that the student, before obtaining a diploma, *must* attend such professors as merely *describe* diseases and operations: he may absent himself from those who would take him to the operating table and show him how to operate; to the subject, and let him operate for himself; to *post mortem* examinations, and let him see the pathological conditions attendant on various diseases; to the bedside, and let him observe from day to day the indications and treatment of disease. Is this the way to make able practitioners?

Having shown the defective nature of medical education, it will not be difficult to point out, in a general way, the means of reformation. Physicians must be more attentive to their students; lecturers more laborious and practical. The dissecting-room must be turned into a class-room; and, instead of receiving an occasional visit from the professor, must be the chief arena of his labours. Every subject should, in the first place, be used by the student for the performance of such operations as would not mar it for dissection, and this under the eye of the surgical professor. Hospitals should be turned into and connected with medical schools; and, besides having daily clinical instruction from able and experienced men, each student should be allowed to visit for himself, once a day at least, a certain number of cases, the history of which he should be required to write down in a note-book, which should be daily examined and commented on by the clinical professor.

I would suggest, too, the study of the living model, to use an artist's phrase.*

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* Since writing the above I have been informed, by a distinguished gentleman from Edinburgh, that the living model is actually exhibited in an anatomical school of Edinburgh.

Let an athletic man be trained to exhibit the muscles in all their combinations of action, and the student be taught to recognise them when in action, and to point out their situation when in repose. This would convey most important information as regards the reduction of dislocations and the course of nerves and vessels. Let him be taught to point out the direction of the various arteries from the external surface, and to compress all that are compressible. Such a course of training, faithfully pursued, would impart to the student that wise confidence which is the offspring of familiar knowledge and conscious ability.

But how shall such knowledge and practical skill on the part of the candidate be secured ? Simply, by affording to the student adequate opportunities for their acquisition, and then by rendering the examinations practical as well as theoretical and descriptive. Let the candidate be taken to the living man, and directed to arrest the circulation in the various arteries,—to explain how he would reduce dislocations,—what muscles he would bring in, what throw out of action. Let him be taken to the subject, be directed to pass the catheter and probes, to trephine, tie arteries, and perform other operations. Let him be directed to dissect out and demonstrate any region of the body. Take him then to the wards of an hospital, direct him to examine patients, and to state or write his opinion of their diseases and the appropriate mode of treatment ; place before him the ordinary medicines, and let him be directed to distinguish them from each other, state their principal applications and ordinary doses. Having shown his practical ability, then examine him on the principles of treatment, hygiene, physiology, obstetrics, materia medica, and medical jurisprudence. Such an examination rigidly enforced would deter the ignorant from applying, and he who could pass it with success would be so efficient in the treatment of disease, and so well prepared for emergencies, that he would stamp the impression of his superiority on the convictions of all around. The charlatan, whether professional or non-professional, would shrink from the sphere of his activity.

To the practical part of the above mode of examination it may be objected that the time occupied would exceed that required by the present system. This is true ; but I answer, that the difference would bear no appreciable ratio to the great object to be accomplished. It may be urged, too, that it would be difficult to find, even in an hospital, a sufficient range of diseases for a full examination. I answer that, even if the best possible means of testing the ability of candidates are not possessed, it is no legitimate reason for neglecting such as are possessed. Besides, it is not meant that each candidate should examine all varieties of disease, or that he should dissect or demonstrate all parts of the body, perform on the subject all the operations, or even any considerable portion ; but, as he would be ignorant of what diseases he would be called upon to examine, what parts to demonstrate, what operations to perform, he would necessarily have to prepare himself on all points, that he might be ready for any test that the examiners might apply.

But the question is now suggested. How shall we secure such efficient teaching as has been recommended ?

At a period not long past, society, in the least tyrannic governments, was divided into lords and vassals, with an intermediate order, the priesthood. The aristocracy and oligarchy joined palm to palm, and though there were doubtless many good men among them, the system which they worked was a system of stupendous fraud, in which the one controlled the energies of the nine hundred and ninety-nine. Individual honesty and intelligence were trusted in nothing. Men had their political opinions and religious creeds prescribed by law, though, with the making of the law, they had nothing whatever to do. It was deemed sufficient for them to obey, to pay taxes and tithes, and to fight. Enterprise, too, was shackled; men had often to purchase the privilege of following even artizan employments, and of dealing in the most indispensable articles. For a man to express opinions on politics, religion, or even science, differing from the prescribed ones, was to subject himself to bonds, torture, the halter or the fagot; and to follow many employments without a purchased patent or special privilege, was to subject himself to fine and imprisonment. But men could not always be thus soul-bound: despite the threatened chains, torture and death, many choice spirits struggled with their oppressors, snapped one by one the bonds which bound their struggling energies, and finally burst forth disenthralled into the regions of truth and freedom. And what was the great truth which was all the while undergoing demonstration? Simply this that the less the honest application of individual intelligence, talent, and enterprise is interfered with, the better.

One would suppose that a representative form of government would never have made invidious distinctions between its citizens. But the mischievous itching that legislators have for meddling with everything has been an overmatch for their wisdom; and thus, many like measures to those which once flowed from aristocratic domination, now flow from democratic kindness and meddlesomeness under the specious appellations, protection and fostering care. Thus, among other acts of like nature, they have built around certain medical institutions legislative ramparts, and granted to them the exclusive privilege of teaching medicine, thereby placing a tariff on mind, and screening the privileged professors from the wholesome influence of competition. And this is done under the pretence of fostering enterprise, talent, and genius! Foster enterprise, talent, and genius? Let them alone; *they* need no fostering. Ignorance, indolence, and imbecility may need their fostering care, but enterprise, talent, and genius need neither wet-nurse nor dry-nurse, cradle nor leading strings; they are no puny hot-house bantlings, but children of the storm,—daring, vigorous, and weather hardened. They ask not protection, but a clear field, fair play, and no favours; grant them these, and they will soon demonstrate what inborn energy can achieve.

Free competition in medical teaching would, I believe, greatly improve the quality of such teaching; and, be it remarked, that this would in no way interfere with legislatures offering to medical students such advantages as would assist them in their pursuits. Such conduct would, indeed, be generous and wise; but to secure the usefulness of whatever institutions they may endow, official stations in them should never be given as reward of political partizanship; but be awarded to superior talent, integrity, and energy; and in no case should legislatures exclude competitors from the field by placing a higher legal value on knowledge obtained at their institutions than on equal knowledge obtained in any other way. If the advantages offered by the public institutions are sufficiently obvious, students will, of course, resort to them; but to *make them* purchase their knowledge at a certain place, under pretence of doing them a favour, is unjust and opppressive. Legislatures have the right to insist that a man shall have obtained certain knowledge and ability before he is allowed a diploma ; but they certainly have no right to insist that he shall have obtained his knowledge and ability at a certain place and in a certain way. As the law now stands, however, the student may have attended a dozen courses of lectures and a dozen years' private instruction of men, zealous, learned, and experienced ; he may have given his nights to study and his days to observation. No matter, if he has not purchased his tickets at the chartered institution his knowledge and ability are of no avail. Suppose a strong-minded, industrious, and unconquerable son of poverty could present himself to a legislature and medical board to be examined for the degree of *medicinæ doctor*, and that he should be told to withdraw from their presence because he had not attended some chartered institution. But he remonstrates ; he tells of his long and assiduous labours, of the avidity with which he seized such advantages as he possessed ; "and now," he might exclaim, "shall I not be allowed to practice the profession of my hopes and affections with an honoured name ? I respectfully ask you to examine me, to test me in any, in every way. I acknowledge your right to insist upon my having the necessary qualifications, but if I have them, will you, can you reject me ? Shall my skill be counted worthless, and my knowledge ignorance, because I obtained them under the weight of difficulties and privations ?" What satisfactory negative could be given to such an appeal I cannot even imagine.

I now come to a most important question. How shall such an examination as I have sketched be secured ?

In conferring diplomas, feelings of interest, commisseration, and kindness, should have no weight. It is a painful thing to send a young man back to his studies who presents himself for a diploma. The kind and generous feelings rise up and plead in his behalf, and these are more imperative in proportion as the associations have been longer or more close. It is often the case that the preceptor is a professor, and it would seem like condemning him to reject his pupil. Beside, when a student has paid so much money for office and lecture fees, it really seems hard to refuse the diploma. But the vision should be carried farther, from the one to the many, from the candidate to the community, and it should be recollected that what to him may be kindness, may to his patients be protracted suffering or death. I would save professors from the influence of either kind or interested feelings, by taking from them the right of conferring diplomas. I would do this for another reason. It does not seem appropriate that they should be the sole judges of the quality of their own teaching. The profession and the community should have some better security. I would therefore intrust the conferring of diplomas to a board appointed for that purpose. And how should that board be organized ? The present system of county examinations is evidently inadequate, as it is well known that some of the examiners themselves would be unable to pass muster at even a lenient college examination. For examiners, men of great acquirements and abilities, and perfectly disinterested, are required. The former might be secured by making the office of examiner the most honourable in the profession ; the latter, by attaching to the office a fixed and liberal salary, no part of which should depend on the graduation fees, and by prescribing that the examiners should not be connected with the business of education in any other way than as examiners, during the time of their appointment. I would have the mere license law abolished. A candidate can either pass the examination which has been described or he cannot; if he can, no just reason for refusing him the diploma can be assigned; if he cannot, there is no good reason for signifying, in any way, that he is worthy of confidence.

It would, indeed, be a glorious consummation, if the medical examinations could be rendered uniform throughout the United States, and all the profession united in one body. This would not be difficult. Present arrangements would need but little extension. Each state medical society might send delegates to meet those from other states at some central part of the country. The body thus convened might be called the Medical University of the United States, and might decide at each meeting the few questions relating to the general interests of the profession, as those relating to the pharmacopœia and to the dispensatory. After this, the delegates might form themselves into boards of examination, consisting of six members each, which, if there were two members from each state, would give three states to each board. These should proceed to various parts of the union, for the purpose of examining candidates and conferring diplomas. The examinations might be held once a year, at two places in each, and always in an hospital. A candidate from any of these three states might attend any of the six examinations which would thus take place, and, if successful, should receive the diploma of medicinæ doctor, in the name of the Medical University of the United States. I think such uniformity and strictness of examination, and such general union of the professional objects worthy of strenuous advocacy and early adoption. But if such general union of the profession be found impracticable, each state might appoint its own examiners and confer its own diplomas.

And what, it may be asked, should be the prerequisite certificates to examination? I answer, after much deliberation, none, absolutely none. If the candidate have the requisite knowledge and ability, he can show it on examination; and if his knowledge and ability be evident on examination, no other evidence is needed. I would say emphatically, *take care of the doors, and the avenues will take care of themselves.* Nothing should be done to distract attention from this great point. Preliminary lectures and instructions, to a much greater extent than at present, would, in general, be necessary to the candidate, but still the examination itself should be the great, the only test of his learning and ability. And as to fixing an exact time which shall be occupied in preparatory studies, it is, as I have before observed, to destroy the natural distinctions between lassitude and energy, indolence and industry, imbecility, talent, and genius. Precedent, in all the might of authority and venerableness of age, may, indeed, be urged in favour of this iron rule; but though age and custom impart sanctity to whatever is wise and just, they cannot sanctify injustice, nor give to falsehoods the characteristics of truth. Therefore, while I would show to precedent all due deference, I must be allowed, to inquire whether the precedent itself be just and wise; for it must be allowed by the most profound venerator of ancient usages, that no odious custom was ever abolished, no erroneous practice ever corrected, no abuse ever reformed, but in opposition to precedent; and that no silly or wicked act is now perpetrated, no erroneous practice introduced nor duty neglected, which forms not a precedent for the acts, practices or omissions of like nature which shall succeed. Seeing, then, that this unbending rule of time is sanctioned neither by justice nor nature, I would let candidates be examined whenever they and their instructors deem best. And though a few might present themselves in less than three years from the commencement of their studies, many would have to study and prepare, four, five, or even six years ; and others, such as some of those who now obtain ready admission into the professional ranks, would be forever excluded. But then they would be just such as should be excluded. He who aspires to that for which his talents and industry do not adapt him, should modestly retire to his true place in the social system.*

It may be thought that candidates would be too ready to offer themselves ; but against the frequent occurrence of such a difficulty, there is a sufficient guarantee in the well known elements of human character. Men dread degradation and self abasement, and would avoid them by not offering themselves for examination unprepared.

The plan, then, which I recommend for the reformation of medical education, and the elevation of medical character, may be comprised in a few propositions.

1. Insist on no qualification, as a pre-requisite to a medical diploma, which is not necessary to the practitioner of medicine, and insist on every qualification which is necessary.

2. Regulate the whole course of medical education in accordance with what should be its objects, namely : to so instruct and train a set of men as to impart to them practical skill to fulfil the duties of physicians and surgeons.

3. To secure such qualification, confer the diploma on no man who does not show, on a rigid examination, that he possesses the necessary ability as well as the necessary learning.

4. To secure zealous and masterly teaching, take from medical colleges the exclusive right of medical instruction, and subject them to the rivalry of individual talent and enterprise.

5. To secure the door of the profession from being opened by kindness, favouritism, or interest, take from medical teachers the power of conferring diplomas, and vest it in a board of examiners appointed for that purpose.

6. To secure examiners of the first ability, let them be appointed by the profession at large, through their representatives, at the state medical societies, and let their office be considered as the most honourable in the profession. To secure disinterestedness in the examiners, allow them to have no connection with the business of education during their term of office, and let no part of their remuneration depend on the number of candidates which they may pass.

7. To secure union among medical men, and uniformity in medical examinations, let the members of the profession throughout the country unite in one body, to be called the Medical University or College of the United States, by sending delegates from each state to a yearly medical congress, the members of which

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* At the close of the last session of Geneva College, a young gentleman of fine talents, a student of one of the professors, having commenced his medical studies eighteen months previously, applied for an examination, on the strength of which he should receive the diploma at the expiration of his three years of studentship. His request was granted, and one of the professors remarked to me that his replies were most satisfactory, far more so, indeed, than those of one half the candidates who received diplomas. But, as this student acknowledged to me, had the tests been practical, he would not have dared to present himself for examination, feeling, as he did, unprepared on all practical points.

shall first regulate every thing relating to the general welfare of the profession, and then form themselves into boards of examination, and proceed to all the states of the Union for the purpose of examining candidates, and conferring diplomas.

Such is the outline of a plan which would, I humbly believe, be found not only perfectly practicable, but perfectly just, and in the highest degree efficacious for the attainment of the desired ends.

ANDREW BOARDMAN.

PRESERVATION OF SUBJECTS FOR DISSECTION.

After a variety of experiments, MM. Babington and Rees have succeeded in preserving subjects for anatomical purposes, by injecting the vascular system with pyroxylic spirit. The following account shows how well this substance is calculated for the purposes to which it was applied :—

On the 15th of May last, a convict at Woolwich, 23 years of age, died of inflammation of the bowels; and, on the 18th, his body was sent to Guy's Hospital for dissection. It was neither œdematous, nor in a state of decomposition, and was in a fair condition for anatomical purposes. On the 21st, a gallon of pyroxylic spirit was injected into the aorta, and the body was placed in a water-tight shell, or trough made of slate, and loosely covered with a wooden lid. This trough was deposited in a cellar, the stone floor of which was about two feet below the surface of the ground. On the 29th, the lid was removed, for the first time, and the body was found to be perfectly fresh. From the 29th of May to the 12th of June, the subject was examined, by removing the lid of the trough every two or three days, and no change was perceptible until the latter date. At that time the only sign of alteration was the appearance of two or three brown streaks—evidently veins—on the inside of the thighs, and a separation of the cuticle of the hands from the true skin, which began to assume a greenish hue. Every other part of the body was perfectly preserved, and of natural colour. There was no putrid odour on opening the lid of the trough, but the characteristic smell of the pyroxylic spirit was in some measure passing off. An incision into the middle of the right thigh, showed that the fat, muscles, blood-vessels and nerves were in a complete state of preservation. It should be observed, that ever since the injection of the subject, the weather had been that of established summer; and that a second body, received from Woolwich, was so decomposed in three days after its arrival, as to be totally unfit for dissection. On the last examination, as well as on two or three previous occasions, fluid was observed to occupy the bottom of the trough, and this it was thought advisable to remove; it was likewise determined to throw another quart of pyroxylic spirit into the aorta.

On the 24th of June, the body was removed to the dissecting-room, and placed on the table, for the purpose of being thoroughly dissected. With the exception of a greenish appearance on the outer part of the left thigh, and the brown streaks already mentioned, it appeared, when brought into the light, perfectly preserved. The skin on the back of the hands, instead of putrifying, had dried, and become transparent; while the greenness of the left thigh proved, on incision, to be quite superficial. The dissection was undertaken by eight gentlemen, and completed by the 13th of July; and it is testified by them all, that every anatomical purpose was as fully answered as if the subject had been quite recent. The various parts, on being laid open, were of natural colour and of firm texture. The tendons and ligaments were silvery and white, and the nerves had lost none of their tenacity. The pectoral muscles alone formed an exception to the natural colour which was elsewhere maintained; this appeared to be attributable to the macerating effects of a wetted cloth that had been laid upon the breast, to prevent evaporation through the aperture, by which the injection had been accomplished. The parts which were exposed by dissection gradually dried, changing, in the course of a day or two, to a dark colour, and, instead of putrifying, becoming hard. The brain, although it had retained its form, was soft, semi-putrid and unfit for demonstration: it must be borne in mind, however, that had the head been opened six days after death—at which period the subject was injected—this probably would have been the case.

The advantages of employing pyroxylic spirit are, 1st, its extreme fluidity, in consequence of which it may be thrown into the minutest vessels. 2dly, its freedom from colour. 3dly, its cheapness; for a gallon is sufficient to inject a full-sized subject; and even with the present limited manufacture of it, it is only half the price of alcohol; while it possesses infinitely greater antiseptic powers, and is, in common with that fluid, miscible with water, in all proportions. 4thly, its innocuous nature, and its freedom from any corrosive action upon steel instruments.—*Lancet*, *Abridged from Guy's Hospital Reports*, No. IX.

MEDICAL SOCIETY OF THE STATE OF NEW-YORK.

At the annual meeting of the Medical Society of the State of New-York, held at the capitol in the city of Albany, on the 4th, 5th, and 6th February, the following gentlemen were elected officers for the ensuing year.

Dr. Sumner Ely, of Otsego, President,
,, John B. Beck, of New-York, Vice-President,
,, Peter Van Olinda, Secretary,
,, Platt Williams, Treasurer.

Censors Southern District—Drs. Edward G. Ludlow, James R. Manley, John C. Cheeseman.

Censors Eastern District—Drs. Joel A. Wing, Jonathan Eights, Peter Wendell.

Censors Middle District—Drs. E. B. Burroughs, Augustus Willard, Thomas Goodsell.

Censors Western District—Drs. Lansingh Briggs, Lyman Clary, William Taylor.

Committee of Correspondence.

Dr. Chandler R. Gilman, 1st senate district; Dr. Wm. Horton, 2d; Dr. Robert G. Frary, 3d; Dr. William Tibbets, 4th; Dr. Thomas Goodsell, 5th; Dr. Augustus Willard, 6th; Dr. Phineas Hurd, 7th; Dr. Henry Maxwell, 8th.

Permanent Members.

Dr. John McClellan, of Columbia County; Dr. Charles S. J. Goodrich, of Rensselaer County.

Honorary Members.

Dr. Placido Portal, Palermo, Italy; Dr. George B. Wood, Pennsylvania.

Committee on Prize Questions and Dissertations.

Drs. James McNaughton, T. Romeyn Beck, Jonathan Eights, Robert G. Frary, Eli Pierce.

Committee of Publication.

Drs. T. Romeyn Beck, Joel A. Wing, James McNaughton.

The following were adopted as Prize Questions, and the sum of fifty dollars voted to the successful candidate on each question;

1. The Medical Literature of Cholera Morbus; previous to the appearance of the Epidemic Cholera.

[It is expected that the medical history of cholera morbus in this country will be particularly examined.]

2. An Analysis of the Discoveries concerning the physiology of the Nervous System, from the publications of Sir Charles Bell, to the present time; both inclusive.

[The report of Dr. Wm. Charles Henry (in the 2d vol. of report of the British Association of Science) made on this subject in 1823, may be freely used, but it is required to continue the analysis down to the present time.]

The dissertations must be forwarded to the Secretary, on or before the 1st of January, 1841.

Information has been received by the Society, that the following Delegates have been appointed to the National Medical Convention, proposed to be held at Philadelphia, on the first Tuesday in May, 1840.

From the University of Pennsylvania—Dr. Nathaniel Chapman.

From the Medical Society of the State of N. York—Dr. John McCall, of Utica, Dr. Thomas Spencer, of Geneva, and Dr. Joel A. Wing, of Albany.

From the Western Medical College, Fairfield, N. Y.—Dr. T. Romeyn Beck, and in case of his absence, Dr. James McNaughton.

From the State Medical Convention of Ohio—Dr. Awl, and two other delegates, names not ascertained.

It is also understood, that the *Medical Society of the State of New Hampshire* has appointed delegates.

P. VAN OLINDA, Secretary.

Albany, February 17, 1840.

BIBLIOGRAPHY.

An Inquiry into the Diseases and Functions of the Brain, the Spinal Cord, and the Nerves. By Amariah Brigham, M.D. New York. George Adlard. 1840. Pp. 327. 12m.

The value of this volume consists chiefly in the large number of cases, collected from different quarters, illustrative of the phenomena of inflammatory disorganizations of the brain. Every contribution of the kind should, as we hope this will, be received with avidity by the members of our profession, who have a double interest in the subject; first, as physicians, called upon to remove pain and suffering, and to cure functional disturbances of the brain; and secondly, as philosophers, from whom must finally come a suitable system of mental philosophy based on a knowledge of the functions of the encephalic organs.

Dr. Brigham gives a section to the 'Structure of the Brain;' a second to the 'methods adopted for ascertaining its Functions,' among which that of an observation of correspondence between its healthy development and its functional conditions and activity, or as he terms it 'External examination of the skull—Phrenology,' occupies but three pages. More space is given to the method 'by Pathological Observations,' in which we do not find any addition to our former knowledge on this point, nor even quite as clear and critical an arrangement of existing facts as the case would admit of. 'Functions and diseases of the medulla oblongata' are the subject of a third section. Section fourth is taken up with notices of the functions of the several nerves improperly called cerebral, a misnomer not, we believe, adverted to by the author; certainly not criticised by him as it ought to be. Section fifth is on the great sympathetic.

Part Second is on the 'Diseases of the Brain, and of other Parts of the Nervous System,' and includes notices of *Inflammation of the Brain and its Membranes*, *Apoplexy*, *Epilepsy*, *Hypochondriasis*, *Hysteria*, *Tetanus*, *Chorea*, *St. Vitus's Dance*, *Delirium Tremens*, *Neuralgia*, *Tic Doloreux*, *Dyspepsia*, *Insanity*. A mere enumeration of these various and important matters, all treated of in the compass of a hundred pages duodecimo, of not the smallest type, must show the reader, at a glance, the impossibility of Dr. Brigham doing himself or the subject justice by so meagre a sketch as that which he has given in the volume before us. Still, there are many useful and pertinent facts original and selected in those pages—hints and suggestions for farther inquiry, which we hope the estimable author will himself, in due season, carry out, with the aid of farther investigations, to their legitimate applications.

To conclude our notice of the contents of the volume, we should say, that the last subject treated of is the *Effects of Mental Attention on Bodily Organs.* In an Appendix are some cases of disease of the sixth and auditory nerves, and some remarks on, and cases of *Congenital Deafness*, and a table of the *Causes of Accidental Deafness.*

Report of the Joint Committee of Councils and Assembly in the State Prison Accounts, November 5, 1839. Trenton. Pp. 21. 8vo.

Eleventh Annual Report of the Inspectors of the Eastern State Penitentiary of Pennsylvania. Read in the Senate and House of Representatives, February 19th, 1840. Philadelphia. Pp. 51. 8vo.

After giving the titles of these Reports, the first of which is that on the New Jersey State Prison, we shall only say, in addition, just now, that the parts of them which more directly concern us and our readers, are the reports of the physicians of these establishments—Dr. James B. Coleman of the first, and Dr. William Darrach of the second. It is our intention to insert both these reports in a subsequent number. Every document of this nature is a valuable contribution to Hygiene, independently of what occasional light it may cast on the ætiology of disease.

Annual Announcement of the Board of Visitors of the Baltimore College of Dental Surgery. Baltimore. Pp. 7.

By this document we learn that a College has been incorporated in Baltimore "with particular reference to instruction in Dental Science." The Faculty consists of Horace H. Hayden, M.D., Professor of Dental Physiology and Pathology; H. Willis Baxley, M.D., Professor of Anatomy and Physiology; Chapin A. Harris, Professor of Practical Dentistry; Thomas E. Bond, jr. M. D., Professor of Special Pathology and Therapeutics. Attendance on all the lectures of the College for two terms entitles a student, after examination by the Professors, to the Degree of Doctor of Dental Surgery. The design of the new institution is a useful one; and the men, to carry it out, are, we believe, competent to the task. Both to the design and its performers, therefore, we wish success.

Epidemic (Endemic?) Fever in Augusta, Georgia.[*]

The Report of the Committee of the Physicians of Augusta, Ga., on the origin and causes of the fever in that city, has been for some time on our table. It is mainly argumentative and occasionally historical. The chief facts connected with its origin are, that as early as the 8th of June several severe cases of fever occurred at a house fronting on the river bank and Lincoln street, which are believed by the committee to have arisen from the same cause which produced the prevailing epidemic. On the 5th of July, a labourer, at the "Trash upper wharf," was taken sick, and remained violently ill for ten days. "His physician, and those who visited him, consider his case one of the same nature as the prevailing epidemic. On the same day, a son of Mrs. Bush who resided nearly mid-way between Lincoln and Houston streets, on the north side of Broad street, was taken with fever, and died, with yellow skin, and (as his mother states) passing from his bowels large quantities of matter resembling coffee, grounds on the 14th. She further states that numerous purple blotches appeared on him soon after his death. His attending physician concurs in the opinion that it was a case bearing the marks of the late epidemic." On the 7th July two cases of fever, one in Broad, and the other in Reynold street, occurred, which Dr. Cunningham states to "have been decided cases of the prevailing fever." Other cases, which began on the 14th, 16th, 23d, and 26th of July, are recorded as of a precisely identical character with those during the height of the epidemic. From the 26th of July the disease became general along Reynold street, above and below Centre street, extending to Broad street, in the neighbourhood of the Eagle and Phœnix Hotel and the lower market.

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[*] A Report of the Origin and Cause of the late Epidemic in Augusta, Ga., submitted to a meeting of the Physicians of Augusta, 10th December, 1839.

The value and application of the above details will appear when taken in connexion with the dates of the arrival in Augusta of three persons from Charleston, S. C., who were unwell on their arrival, and who, it is presumed, brought with them from this last city, the seeds of the disease (yellow fever) then prevailing there. Two of these persons arrived on the 27th of July at Augusta; one, the mother, died on the 30th with yellow skin, black vomit, and the other symptoms of yellow fever; the other, the daughter, recovered. "These cases occurred on the north side of Broad street, opposite the upper market, and were visited by numerous individuals who resided in the neighbourhood." The third case was of a gentleman, who arrived sick on the 31st, but recovered. A comparison of dates will show the improbability of the notion that the Augusta fever had its origin from the cases from Charleston.

After a citation of various authorities and some arguments, to show the domestic origin of yellow fever in the cities in which it has appeared in the United States, the committee proceed to answer the query, whether the Augusta fever arose from local causes; and, if so, what were the causes? The reply to the first part of the query is decidedly affirmative. A specification of the causes follows. The committee pass over as not entitled to special consideration "decayed cotton seed;" the lowness of certain lots, and their being "receptacles for water, and such filth as the rains may carry into them;" and "the low state of the river by which a considerable portion of its bed was exposed to the action of the sun's rays;" and, finally, "a lot of damaged bacon;" and "the extensive growth of the '*Morus Multicaulis.*'" This last is itself an evidence of epidemic disease, to which it was hardly fair to attribute more ills than the collapse of purses and the evils attendant thereon. The committee at length announce what "they believe to be truly the '*fons et origo mali;*'" and this is the "Upper Trash Wharf," a deposit which has been accumulating for a number of years, and consisting of about 200,000 cubic feet of the offals and scourings, animal and vegetable, of the town, collected from the different yards of the city. These various remains were to have been thrown into the river, by means of a slide or platform; but after a while they began to accumulate at the base, and beneath the platform, to the extent already stated. A partial removal of this nuisance had left rather more than one half of the putrid and fermenting mass exposed to a hot sun during an unusually dry summer. From the 10th of June to the last of August, the thermometer in the shade at 3 o'clock, P. M. ranged from 75° to 96°. At one time there was not even a shower of rain for seventy-one successive days.

The work of covering the remaining part of the deposit with fresh earth was commenced on the 28th of August, and as, after its completion on the 7th of September, a large fissure was found to exist in it, the work was consequently resumed on the 12th, and finally completed on the 21st of September. "The covering commenced too late, even if it had been effectual in arresting the further generation of the miasmata poison, to suddenly arrest the disease. The atmosphere was fully impregnated with the morbific agent, and nothing occurred to neutralise its influence until the first black frost, on the 8th of November. The covering did not exceed an average of more than four or five feet; and if six feet of earth is required to prevent exhalations from a dead body, your committee will not undertake to say how many feet would be necessary to arrest miasmatic exhalations from 117,000 cubic feet of vegetable and animal putrefaction. Besides, that part of the decayed matter which had floated down and lodged on the exposed points of the bed of the river, below the 'Trash Wharf,' was not covered, but continued to give out pestiferous exhalations."

Annual Report of the Interments in the City and County of New York, for the year 1839, *with accompanying remarks.* Presented by Wm. A. Walter, *City Inspector.*

Our thanks are offered to Dr. Lee, through whose politeness we received this Report. We have not room for the tabular part which makes up the bulk of the report; but we give the "Remarks" of the Inspector.

"The whole number of interments within the city during the year ending Dec. 31st, 1839, were 7953; being 100 less than for the year preceding.

"Of these, 7491 were from among our white population, and 462 were coloured persons.

"Of the whole number 4389 were males, and 3564 females. This excess of mortality among the male population, as already stated in the reports of interments for previous years, is not easily explained, and is probably much greater than the proportion of male over female residents.

"The disparity commences during fœtal existence, as is shown in the table of still-born infants, and continues almost through every period of life.

"The average mortality among our foreign population appears to be much greater than among our native citizens. Of the whole number of deaths in persons over ten years of age, 1419 were natives and 1853 were Europeans.

"The season of the year most fatal to human life in this city, as shown by the tables, is during the months of July, August, and September. The season, on the contrary, in which the fewest deaths occur, is during the three months immediately preceding these, namely, April, May, and June.

"The great mortality in this city among children under five years of age, has long been the subject of remark. During the past year, excluding the still-born, more than half the deaths, or 3696, occurred in children before the completion of their fifth year. The diseases most fatal within this period of existence are, Marasmus, Inflammation of the Brain, Hooping Cough, Measles, Scarlet Fever, Dysentery, Diarrhœa, Cholera Infantum, Croup, Convulsions, Dropsy of the Brain, and Teething.

"The mortality from Pulmonary Diseases, including in this list all the disorders of the respiratory organs, is nearly to one-third of the whole number of interments.

"The death from pulmonary consumption alone, during the past year, were 1315, being an increase of ninety over the year preceding.

"The mortality from pulmonary consumption in this city, may be rated at one-sixth of all the deaths; but the average varies greatly among the different classes. It is worthy of remark, that of those over ten years of age, that die of this disease, more than one-half are natives of Europe. Of the 5564 deaths among our native white citizens, only 610, or about one in nine, occurred from consumption. Of the 462 deaths among our coloured population, 132, or one in three and a half, occurred from this disease. And of the 1,853 deaths among our European population, 563, or about one in three and a quarter, occurred from the same disease.

"The city has been visited by no fatal epidemic during the past year; and, with the exception of measles, the various contagious diseases have been less prevalent than formerly.

"The tables show sixty-eight deaths from small pox. The proportion of these that had previously undergone vaccination cannot be ascertained; but as thirty-eight of them, or more than one-half, were among children under five years of age, the probability is, that very few of the whole number had resorted to the only efficient means of protection against this loathsome and fatal malady.

"The foregoing tables are as accurate as possible, consistent with the requirements of our existing statutes; but in order to furnish exact returns, our bills of mortality should be drawn, not from the number of interments, but rather from the actual number of deaths occurring in the city. No proper estimate of deaths, in proportion to our population, can be given, until we are furnished, first, with a register of births; and, secondly, with the new census of the city and county, now in course of preparation.

"In preparing these tables, I have followed, with some alterations, the plan originally introduced by my predecessor in office, to whom great credit is due for the ability and industry exhibited in his reports for the years 1837 and 1838.

"The present report, it is believed, will present materials of equal interest to the public, and particularly to the medical profession.

"Respectfully submitted by

"WILLIAM A. WALTERS, City Inspector."

The deaths from diseases of the Brain were 712: viz. *Apoplexy*, males 72, females 44; *Congestion of the Brain* 45, males 26, females 19; *Dropsy of the Brain* 364, males 200, females 164; *Inflammation of the Brain* 147, males 82, females 65; *Insanity* 25, males 17, females 8. *Cholera Infantum* shows 380 deaths, of which 198 were males and 182 females. *Croup* gives 141, males 88, females 53. *Delirium Tremens*, which might have been included under Diseases of the Brain, exhibits deaths to the number of 87; males 84, females (all white) 13; and yet some women think that they need not take an active part in the temperance reform. Does the reputation and life of their sex go for nothing in the eyes of those who are themselves in no danger of lapses and criminal indulgences. *Diarrhœa* gives 155 deaths, males 88, females 67; *Dysentery* 205, males 165, females 90; *Epilepsy* 58, males 33, females 25; *Fever* rates 468 including Puerperal 14, and Scarlet 174. Of *Hooping Cough* there are 133 fatal cases, males 44, females 69; Lungs, inflammation of the, 460, males 283, females 177; *Pleurisy* 21, males 14, females 7. *Small Pox* 68, males 40, females 28, of whom there were 3 blacks; Varioloid 1. Worms 11.

Of Casualties, there were 86 deaths from drowning; 14 from Poison; 45 from suicide. The number of still-born children was 590, of which there were 324 males and 266 females.

Memoranda for Practitioners in Midwifery. By Edward Rigby, M.D., &c., Lecturer on Midwifery, &c., at St. Thomas Hospital; Assistant Physician to the Lying-in Hospital, London. First American Edition with Additions. By S. C. Foster, M.D., Licentiate of the Dublin Lying-in Hospital, &c. New York: L. W. Ransom. 1840. Pp. 63. 12mo.

This little book (for which we are indebted to Mr. Auner, Market street), with the unpretending title of Obstetric Memoranda, may be received as a useful pocket companion to the younger practitioner, whose memory is not always equal to retaining the requisite details in difficult or unnatural labour, and yet who on occasions is required to act with promptitude for the alleviation or removal of the existing difficulty—such as changing the presentation, freeing a locked head, turning the child, &c., &c. Dr. Foster's additions are in the main, pertinent and useful—in some cases indispensable. Thus, when Dr. Rigby begins the detail of treatment of puerperal fever by such a direction as this, "VS. general or local, *if* necessary"—a judicious and precise commentary is required to give point and application to this very oracular advice, '*if* necessary.' The young practitioner wants to know whether bleeding is necessary, and what are the indications, and what the extent to which it is to be carried. The desired precision in this respect is manifested by Dr. Foster in four or five paragraphs, added to the very meagre outline of the text.

Letter to the Hon. ———. With Reasons for Examining and Believing the Fundamental Principles of Homœopathy. By C. TICKNOR, M.D. New York. 1840. Pp. 31.

DR. Ticknor's pamphlet we take to be an ironical defence of the miscalled principles of Homœopathy. The author, in giving lists of titled personages, and of court physicians and counsellors in Germany, who are alleged to be advocates of homœopathy, allows us to infer the little true learning and common sense which these titulars and court attendants really possess, and the credence which such persons, even more than the low vulgar, have given to every plausible imposture which has novelty for its recommendation.

The Western Journal of Medicine and Surgery. Edited by DANIEL DRAKE, M.D., and LUNSFORD YANDALL, M.D., Professors in the Louisville Medical Institute. No. 1, January, 1840. To be published monthly by Prentice and Weissinger.

THE Journal is intended to fill the void left by the extinction of the Western Journal of the Medical and Physical Sciences published in Cincinnati and the Louisville Journal of Medicine and Surgery. Under its present direction we cannot anticipate other than favourable results, both to the profession at large, who is to be the party chiefly benefited, and by the editors themselves, whose laudable ambition will be gratified by success. The contents of the number before us are varied and instructive; consisting of original essays, reviews, and selections from American and Foreign Journals: the leading articles are, however, Dr. Miller's paper on the Mortality of Infants, and a searching and not vastly flattering review of Hosack's Lectures on the Practice of Physic. The name of the reviewer is not of course given; but if we were required to rejoin to his strictures, we think we should not write entirely in the dark respecting his identity.

The Annual Address to the Candidates for Degrees and Licenses in the Medical Institution of Yale College, January 21st, 1840. By DYAR T. BRAINARD, M.D., Member of the Board of Examination. Published by Request of the Class. New Haven. 1840. Pp. 6.

THE difficulty of reaching positive conclusions in Medicine, contrasted with the ease, in this way, in Mathematics, brief references to past theories and hints of the useful suggestions furnished by some of them, the responsibility of the medical profession, its pleasures and its troubles, patience to acquire a full understanding of the disorders of patient, to journalize cases, misstatements, and exaggerated views, the moral qualifications of a physician, are the topics severally touched and more or less enlarged on by Dr. Brainard, in his Address to the young graduates of the New Haven School. We meet, among much that is correct and useful, the following error: "Some physicians have written on metaphysics, and more have resorted to that science in their communications, and intercourse with each other; but I would say, with deference, for my means of knowledge on that point have been limited, that very few have distinguished themselves in that department." Dr. Brainard forgot, when penning this paragraph, that John Locke was a physician, and so was Thomas Brown, the successor to Dugald Stewart in the chair of moral philosophy at Edinburgh, and so, also, is John Abercrombie, not to mention many other medical names of metaphysical celebrity.

DEATH OF DOCTOR JOSEPH PARRISH.

This eminent physician and useful citizen died on the morning of the 18th of March, after a sickness of three weeks' duration, in the sixty-first year of his age. We shall not attempt his eulogy, which has already been devolved on a gentleman, who, from his long and intimate knowledge of the personal character and professional skill of Dr. Parrish, is fully able, and as willing as he is able, to do him ample justice in all particulars. We cannot, however, forbear from a brief expression of our feelings of respect and regard for the deceased. He had long attained eminence both as a physician and a surgeon, and an other eminence, by a happy blending with the discharge of his protracted and arduous professional duties the graces of a Christian gentleman. His manners were kind, easy, and conciliatory: he was averse from strife and discussion; not from any doubts about the opinions which he held, for few were firmer in this respect, but from the benevolence of his disposition, which made him shrink from wounding another's sensibility. A late student, Dr. Parrish made up for early deficiencies by close and continued observation of the phenomena of disease, both in different public institutions in which he was for many years either physician or surgeon, and in a large private practice. If he was not learned in the written tomes of the library, he was an attentive reader of the book of nature, and of the many coloured pages of her morbid aberrations in the human frame.

Among the evidences of sincere regret for the death of Doctor Parrish, we cheerfully introduce the following Resolutions of the Philadelphia Medical Society; and, also, of a meeting of his former pupils, and of the Managers of Wills Hospital.

THE LATE DR. PARRISH.

At a special meeting of the Philadelphia Medical Society, held on the 19th of March, 1840, the Vice-President, Professor S. Jackson, being in the chair, the following preamble and resolutions were adopted:

Whereas, it appears to this society to be proper that, upon the decease of an eminent member of this body, some expression of the sentiments of his remaining brethren upon the occasion should be made public; and, whereas, it hath pleased the Divine Providence to remove from this world our late esteemed and beloved member, JOSEPH PARRISH, M. D., it is therefore—

Resolved, That we have heard with profound regret of the decease of that eminent physician, whose professional skill, humanity, and liberal and just conduct, have long endeared him to us, and to the profession at large in this city.

Resolved, That we deplore the loss of a physician, whose long career in the practice of his art, has been distinguished by the most brilliant success, accompanied by a modesty, and ingenuousness of conduct, which secured to him the affectionate attachment of the medical profession of this city, as well as their highest respect.

Resolved, That a member of this society be requested to prepare and deliver before this body, a biographical account of the deceased, in order that, although his present and living example has ceased from among us, some permanent memorials may be secured, of a life, which has been highly useful to the Medical body, by a pure example of morals, by great attainments in Medicine and Surgery, and by a rare moderation fit to be preserved as the model of a wise, benevolent, and upright physician.

Resolved, That the members of the society wear crape on the left arm for thirty days, as a testimony of their feelings as expressed in the foregoing resolutions.

Resolved, That the members of the society will attend the funeral of the deceased, to-morrow afternoon at 3 o'clock, and that we hereby invite the physicians of this city to meet with us at our Hall, in order to join with us in the manifestation of due respect to the deceased.

Resolved, That a committee of three members be appointed to present a copy of these resolutions to the family of the deceased.

Chas. D. Meigs, M. D., R. Coates, M. D., and Caspar Morris, M. D., were then appointed a committee, to carry into effect the object of the last resolution.

On motion of Dr. Caspar Morris, seconded by Dr. West,

Resolved, That Dr. Geo. B. Wood be respectfully requested to prepare the memoir contemplated in the above resolutions.

On motion of Dr. T. S. Kirkbride,

Resolved, That an account of the proceedings of this meeting be published in the medical periodicals of the city, and in the city morning papers of to-morrow.

EDWARD HARTSHORNE,
March 19, 1840. Junior, Recording Secretary.

At a meeting of the former pupils of the late DR. JOSEPH PARRISH, held at the Hall of the Medical Society, on the 21st of March, 1840, Professor Wood was called to the chair, and Dr. Norris appointed Secretary The following resolutions (offered by Professor Morton) were adopted:

Resolved, That we contemplate, with feelings of unfeigned sorrow, the demise of our venerated friend and preceptor, Joseph Parrish, M. D.

Resolved, That we regard the death of this estimable man as a severe loss, not only to the Medical Profession, but to the community at large, and above all to ourselves, who have been instructed by his precepts, and fostered by his kindness.

Resolved, That an intimacy of many years continuance, has tended more and more to enhance our esteem for his many virtues, his amiable manners, and his professional skill.

Resolved, That a copy of these resolutions be presented to the family of Dr. Parrish, with the assurance of our sincere sympathy for the afflictive bereavement they have suffered in his death.

Professor Morton, and Dr. Yardley, were then appointed a committee to carry into effect the last resolution.

On motion of Dr. Yardley, it was

Resolved, That this meeting cordially unite with the Medical Society in the appointment of Professor Wood (one of our members) to prepare a biographical memoir of our lamental preceptor; believing that he will do full justice to his superior ability as a teacher of medicine and surgery, as well as portray his exalted and endearing character as a physician, his worth as a man, and his virtues as a christian.

Resolved, That we will in a body attend the reading of said memoir at such time and place as Dr. Wood and the Medical Society may select.

On motion of Dr. West,

Resolved, That the proceedings of this meeting be published in the medical periodicals and newspapers of the city.

GEO. W. NORRIS, Secretary.

At a special meeting of the Managers of Wills Hospital, held on the 18th instant, the Secretary having announced to the Board that a dispensation of

Divine Providence had removed from among them their late respected fellow citizen and beloved associate, DR. JOSEPH PARRISH, the following resolutions were unanimously adopted:

Resolved, That this Board have received with deep emotion, the painful intelligence of the demise of their much esteemed and lamented fellow member, Dr. Joseph Parrish.

Resolved, That being fully sensible of the worth of their deceased colleague, and of the valuable services he has rendered to this institution since its first organization—during the whole of which period he has been called upon to preside over the deliberations of this Board—we do now direct to be recorded upon the minutes this expression of the high esteem in which his surviving associates have ever held the virtues, talents, and public usefulness of the deceased, and the deep regret they experience for his loss, as a valuable member of this Board, an enlightened Philanthropist, a distinguished Physician, and a sincere and consistent Christian.

Resolved, That we deeply sympathise with the family and relatives of the lamented deceased in their severe affliction: and that the Secretary of this Board be requested to transmit to them a copy of these resolutions, with a letter expressing, on behalf of his colleagues, their sincere condolence with them, on this their melancholy bereavement.

Resolved, That when we adjourn, it will be to meet at the late residence of the deceased, at the hour appointed for his funeral, and that we attend the same in a body.

FREDERICK ERRINGER, President, *pro tem.*

M. C. Shallcross, Secretary.

The length and variety of documentary matter in our present number prevents insertion in detail of sundry resolutions of different bodies of medical students, in this city, expressive of the pleasure and instruction derived from the lectures on Clinical Medicine delivered by Dr. Gerhard at the Philadelphia Hospital during the past winter: from those on Practical Anatomy by Dr. M'Clintock at his private school; and from those on Surgery and Midwifery by the respective professors in the Jefferson Medical College. In one of the resolutions of the meeting of the students of Jefferson Medical College, it is said, "we consider the present arrangement [in that institution] of teaching the Institutes of Medicine and Materia Medica in combination, to facilitate greatly the progress of the student, and to present many advantages over the modes in which they are usually taught." Into the expediency or necessity, under the circumstances in which they were unexpectedly placed at the beginning of their winter course, of the Faculty's adopting the arrangement so highly approved of by the students, we will not now inquire. But to convert a temporary expediency or an unavoidable necessity, for the nonce, into a permanent and approved rule of action, adverse, as it is, to general usage and ample experience, is somewhat at variance with our own notions of what is required for medical education.

Notices of the Medical Classes in different schools during the past season, and, also, of the number of graduates, will find a place in our next.

THE ECLECTIC
JOURNAL OF MEDICINE.

Vol. IV. MAY, 1840. No. 7.

CASE OF ANOMALOUS SEXUAL CONFORMATION.

BY SAMUEL FORRY, M.D., U. S. ARMY.

Among the numerous class of red-blooded animals, there is on record no well authenticated case of hermaphrodism, or the union of all the reproductive organs of both sexes in the same individual. As no being of this class, having the power of impregnating and being impregnated, has ever been found, it must be regarded as a creation of the fancy, no less fabulous than the metamorphosis of Hermaphroditus himself. As all cases of hermaphrodism hitherto described consisted merely of faulty sexual organization, the sex being rendered dubious either by imperfect male organs or female organs unnaturally developed, it follows that the majority are incapable of reproduction.

Perfect hermaphrodism is, however, of frequent occurrence among white-blooded animals and especially among the plants occupying the lowest gradation of organized beings. The *helix hortensis*, or garden-snail, offers an example of complete hermaphrodism. Incapable of breeding singly, it is necessary that one individual copulate with another, the male organ of each uniting with the female and the female with the male, when both become impregnated.

A near approach to the union of the two sexes in the same individual occurred in a case which fell under the observation of Professor Bouillaud, of Paris. The subject, aged sixty-two, a widower, died of cholera. Although apparently a male, yet, on dissection, a uterus and ovaries were found. The penis had a well-formed glans and prepuce and the prostate gland was perfect; but the testes, vesiculæ seminales, and vasa deferentia, were wanting. The external female reproductive organs were entirely absent; but a vagina about two inches long connected the matrix with the urethra. The general features, with the exception of a thick and soft beard, inclined to the female sex.

A still more remarkable case of bisexual hermaphrodism, in which the male and female apparatus exists in the same individual, is afforded by the subject of this article. This person, named *Sampson*, was a servant in a house in which I lodged. From his (if I may use the gender) striking resemblance to the general figure characteristic of woman, and from that peculiar gait, arising from the greater proportional size of the pelvis, marked as it is by the arch described, at every step, around the centre of gravity, I suspected at first sight a *lusus naturæ*. There is much truth, if we include the influence of the ovaria, in the remark of Van Helmont—*Propter solum uterum mulier est*, *id quod est*—the uterus alone makes woman what she is.

The history of this individual, the notes of which were carefully taken at the time, presents a strange anomaly in the operations of nature. Sampson, who is of African descent, is now forty-two or forty-three years old, and is rather above the ordinary female stature. From his sexual organization in infancy, his parents were led to give him the name and attire of a male, and to these he has always adhered; but as the development of puberty took place, he soon found that the secret impulses of nature contradicted her outward manifestations.

Having prevailed upon him to submit to an ocular examination, I am enabled to give an exact description of the external reproductive organs. These are decidedly male, but not fully developed. The penis is perfect, having a glans, prepuce, and frænum; but it is of little more than half the ordinary size,—a fact of which I was the better enabled to judge, as it became, owing to his erotic temperament, erect on examination. The scrotum, which exhibits nothing unnatural, contains two testes. These have about the same proportional size as the penis; but they are soft and tender, the irritation of clothing frequently causing pain, whilst the epididymis seems to be wanting. Between the scrotum and anus, in the position of the vagina, there formerly existed a canal about an inch in diameter, covered externally merely with the common dermoid tegument; but this opening since 1824 has contracted so much as scarcely to admit the point of the finger. Into this canal, before the period mentioned, he could readily introduce his finger to the distance of an inch, that is, as far as the elasticity of the skin would allow. The mammæ are as large as a female's of the same age, and are subject to frequent changes in regard to size. In his more youthful days, he could at any time eject milk from them by sudden pressure. The beard is tolerably strong, and he is in the habit of shaving; but he did not begin until twenty-five years of age, when, having a long, soft, and downy beard, his master occasionally applied a razor by way of amusement. In the arm-pits and on the pubes, there is little hair. He has a discharge of sanguineous fluid through the urethra every month, continuing three or four days. This evacuation, which appeared when about fifteen years old, has at no time intermitted. As this fluid issues guttatim and involuntarily, it is obvious that the communication with the uterus or vagina is anterior to the sphincter of the bladder. At the menstrual periods, he avoids exposure to wet and cold, as he is liable to dysmenorrhœa, caused by the coagulation of the secretion. He is also subject not unfrequently to hysterical affections. In regard to the actual occurrence of this catamenial discharge, I had ocular demonstration. Aware of the exact period at which it ought naturally to reappear, I found him labouring under fulness of the head, pain in the back and pelvis, troublesome itching of the mammæ, and various hysterical symptoms,—prodromes, which, from an experience of twenty-seven years, enabled him to foretell its near approach. He menstruates, he says, much more copiously in summer than in winter. All his amorous propensities, which seem to be very ardent, have always been directed towards the male sex. He related several instances in which he had been violently in love with young men; and it was a passion of this kind towards myself of which I took advantage, in the cause of science, to draw from him these treasured secrets of his soul. At the moment of venereal excitement, more especially during the years immediately following puberty, his sensations were very intense, the inside of the canal above described becoming, in his own language, "as hot as though it were rubbed with pepper."

Strange to say, Sampson married a woman in 1825, with whom he lived thirteen months. Naturally imbecile in intellect, he was driven to this step to escape the importunities of his friends and of the widow that wooed him in wedlock. She soon told him that he was "*good for nothing*," and accordingly supplied his place with a more virile lover; to this arrangement, he, with the emasculate spirit of a eunuch, submitted without a murmur. A mucous discharge, but no seminal emission followed his efforts at copulation, that is, no fluid was emitted in jets. The penis, it seems, did not become very rigid even in the act of coition; for on inquiry when he submitted his genitals to my examination, I learned that it never became more turgid than it then was. Although of the most erotical temperament, scarcely a pleasurable sensation was afforded by the attempts at venereal congress; and, finally, he became so disgusted that he "wished himself dead." He appeared to be entirely ignorant of the vice of onanism.

He has, at all times, a strong aversion to appear in public; for his feminine character is so manifest as to strike the attention of the ordinary observer. As his abdomen is subject to sudden and extraordinary enlargement, those acquainted with him are sure to teaze him with some inquiry in regard to his *enceinte* condition or the prospect of his *accouchement.*

It is plainly manifest that the predominant sexual organization of this individual, is feminine. The perfect formation of the penis, however, forbids the supposition that it is a mere enlargement of the clitoris,—an opinion sustained by the existence of the scrotum and testes. He has no doubt a vagina, a uterus, and ovaria; and had the skin covering the orifice described been divided at the period of puberty, it is not unreasonable to suppose impregnation and delivery at full time possible.

In endeavouring to account for the unnatural formation of animals, philosophers have puzzled their brains from time immemorial. Generation is a wondrous mystery. We know little more of its secret operations than did Jacob when he used the device of the different coloured rods, so that "the flocks conceived before the rods, and brought forth cattle ringstreaked, speckled, and spotted;" nor are we wiser than Democritus and Epicurus, who, attributing all organization to an atomic aggregation, and fancying that these particles were endowed with an elective faculty in attaining this organism, regarded monstrosities as mere experiments on the part of the atoms to produce beings of a new species.

Washington City, *April* 10*th*, 1840.

REPORT OF DOCTOR JAMES B. COLEMAN,

PHYSICIAN TO THE NEW JERSEY STATE PRISON.

Addressed to the Board of Inspectors, November, 1839.

THE report of this year, if it merely embraced the number of sick and the deaths would be very brief. An unusual degree of health, with but few aggravated cases of disease, and but one death, would be all that I would be able to lay before you. But, gentlemen, this is not all that is expected from an office that gives such opportunities to investigate some of the effects of solitary confinement. The physician stands in a position to observe the influence of a mode of punishment which is yet but an experiment, and which gives him means to analyze the results of solitary confinement in some of its most important bearings.

In the last report it was stated that there was a tendency among the convicts to glandular obstructions; that sunlight and air were indispensable to their health; that *post mortem* examinations had revealed a condition of the organs corroborative of the effects that might have been anticipated; and further, that every year of a prisoner's confinement in the cells would show a decline of his physical powers. The experience of the year now ended has confirmed what was then reported, as well as what was anticipated. In this region, the past year has been one of almost unprecedented health, and no disease has prevailed within the prison that may not be expected during the most favoured seasons. It has been the best opportunity to observe the sole influence of solitary confinement upon the health of the prisoners. The enervating influence that has been felt during the time is what will ever be experienced; it is a part of the punishment that attaches to it, and ought to be considered in the term of sentence.

There are some among the convicts who came from the old prison. While there they were in strong health, and for the first two years in this penitentiary complained but little; now they have become debilitated, are languid, and exhibit decided symptoms of a decline of their physical powers. Some pains have been taken to inquire into these changes, and from the information of the prisoners themselves, as well as from their visible condition, it is conclusive that confinement in cells is not as conducive to health as that imprisonment which admits more air and sunlight to the convict.

Another subject for observation, and which has not usually been assigned to the physician, is the intellectual state of the prisoners. This properly falls within his province. When the mind becomes sensibly disordered he is called upon to restore the wandering faculties, and in every stage of obvious mental aberration, from the vacant stare of the idiot to the phrensy of the maniac, his science is looked to for aid. It is not to these extreme cases, points conspicuous by their deformity, that medical observation ought to be confined. It is the forming stage, the first weakening of those powers which hold the mind in a state of sanity that he must detect. He must, from the derangement of the bodily organs, notice the encroachments of mental disease, and gather from appearances that are unnoticed by others his prognostics. In the prison he will see minds that, subject to the common perceptions of out-of-door life would be as astute as others, indulge in the amusements of the child, wasting their time after their daily task is over upon toys; from all that can be perceived, engaged in no thought that is not immediately associated with the things around them; incapable of abstract reflection, or, if showing any evidences of this higher operation of the faculties, it is more the wandering of the visionary than the operation of a well-balanced mind. Thus situated with respect to the prisoners, it would be but an imperfect report of the medical attendant if he did not make known to you this, the most important part of his observations.

Among the prisoners there are many cases of insanity. Some on their admission showed symptoms of derangement, and since then have continued in the same state. Almost all the cases that have occurred in the prison can be traced to onanism. Among the prisoners there are many who exhibit a child-like simplicity, which shows them to be less acute than when they entered. In all who have been more than a year in the prison, some of these effects have been observed. Continue the confinement for a longer time, and give them no other exercise of the mental faculties than this kind of imprisonment affords, and the most accomplished rogue will lose his capacity for depredating with success upon the community. The same influence that injures the other organs will soften the brain. Withhold its proper exercise, and as surely as the bandaged limb loses its power will the prisoner's faculties be weakened by solitary confinement. And here it may not be improper to hint at the treatment that ought to be extended to the prisoners. Now they are managed under the most favourable circumstances the nature of their confinement admits. Every privilege the law allows is given them. Kind usage, religious and moral instruction, everything that is calculated to exercise their minds in the way of reformation and improvement, is practised or imparted to them. If their minds be weakened by confinement, the sentiments most exercised under the present discipline, and which will be most likely to remain with them when they depart from the prison, are of a character that will tend to make them better citizens. Were another course pursued in this institution, and the superintendent possessed of no sympathy for the convict nor desire for his reformation, feeling satisfied if he tasked him to the full amount of his ability to labour and gave him food at the appointed times, in less than a year the New Jersey penitentiary would be a bedlam.

The practice alluded to in the last report, and which seems to be an evil hard to prevent, is, perhaps, not so general as it was at that time. Every opportunity has been taken to warn the convicts against the evils of onanism. The keeper has lectured to them in the hall, on proper occasions, and, by presenting the effects of this vice in strong colours, has done something towards a reformation. The derangements and deaths that have resulted from the practice have become a warning to many, and caused a partial relinquishment of the habit. As may be expected where so many are confined there is still much of this solitary vice.

There is a portion of the year, a few weeks before the furnaces for warming the cells are in operation, that bears hard upon the prisoners. Catarrhs, some cases of pleurisy, and such complaints as a damp chilly air engenders, are prevalent at that time. The only death that has occurred since the last report was hastened on, if not occasioned, by this circumstance. The patient had a cough when he entered the prison. The immediate cause of his death was a violent inflammation of the lungs, that might have been treated with better success had he been in a warmer apartment. The propriety of having the cells warmed much sooner in the season, and better warmed during the winter, is presented for your consideration.

The opinion expressed in the last report, that the cells on the north exposure of the ranges were the least healthy, has been strengthened by this year's observation. So plain is the difference, that it has become the practice to remove sick persons to the south side for the benefit of the greater degree of sunlight that is received into them.

There are generally from ten to twenty on the sick list. Some of them are predisposed to consumption, and two or three have the disease in its confirmed state, and will die in prison unless they are pardoned out. Of all the cases that occur, those disposed to consumption are the most unmanageable in solitary confinement. The greater number of cases on the list are those forms of debility that depend on glandular obstructions, and seem peculiar to prisons. They do not threaten immediate death, but rather a gradual destruction of health. The cases of mental disease and onanism have already been referred to: in a word, the convicts generally are as healthy as under the most favourable circumstances we might expect to find persons in their situation.

These observations, gentlemen, have been made with no predilection for any kind of prison discipline. If there be more disease in solitary confinement, it is of a peculiar character, slow in its work upon the system and important in its effects upon the mind. It is for others to determine whether the old discipline, hardening the vicious in their crimes while it preserves the body in its full vigour, so that at the expiration of the sentence the convict may go forth a more accomplished rogue than he entered the prison, is to be preferred to another, which, while it subdues the evil passions, almost paralyzing them for want of exercise, leaves the individual, if still a rogue, one who may be easily detected.

REPORT OF DR. DARRACH,

PHYSICIAN TO THE EASTERN PENITENTIARY OF PENNSYLVANIA, FOR 1839.

Addressed to the Inspectors of the Eastern Penitentiary of Pennsylvania.

Of the one hundred and seventy-nine admissions, fifty-four white prisoners have been received in good health and forty-five in imperfect, fifty coloured prisoners have been received in good and thirty in imperfect health, the coloured to the white as eighty to ninety-nine. In 1838, the proportion was as sixty-three to one hundred and fifteen; in 1837, as sixty to one hundred and one; the average total coloured prisoners the last year to that of the white, is as one hundred and seventy-three to two hundred and forty-five; in 1838, as one hundred and sixty-one to two hundred and forty-one; and, in 1837, as one hundred and fifty-four to two hundred and thirty-three: according to the last census the coloured to the white population of this state is as forty-five thousand to one million four hundred and fifty-five thousand. These facts show an increasing disproportionate number of coloured prisoners in the Eastern Penitentiary, constituting in it a peculiar and very important feature, and accounting, in a very great measure, for its sickness, mortality, medical expense and labour. The tabular details, which shall make the body of this report, of the quantity and serious character of the chronic diseases, such as scrofula, syphilis, and thoracic inflammations introduced into the prison; of those diseases which are carried out by the discharged prisoners; of those which the prisoners experienced during their confinement; of the mental disorders; and of the fatal cases of sickness, will afford proper data to judge the effect of your system on the mind and body of prisoners, and what agencies in aggravating or originating diseases there may be, severally in solitude, confinement, masturbation, too full animal diet, cold and damp from wet scrubbing of the cells, and injudicious ventilation by the prisoner, and I may add, in any want of wise conduct in the various officers of the institution towards the prisoners. In view of all these real or imagined causes of sickness, it is gratifying to state that the mortality has been small, and that the past year affords additional evidence in favour of this system of imprisonment, at least so far as regards the white prisoners.

The two following tables show the sickness introduced into the Penitentiary by the forty-five white and thirty coloured prisoners, who were admitted in imperfect health; the first presents sixty-seven items, of which ten are Syphilitic, fourteen Thoracic, five Abdominal, two Fever, eight Rheumatism, one Scrofula, four Mental, ten various; the other presents forty-seven items, eight of which are Syphilitic, six Thoracic, four Abdominal, five Scrofula, five Rheumatism, and nine various, viz:

Table of the Sickness of White Prisoners on Admission.

Syphilitic, 10.—Gonorrhœa, 3; Swelled testicle, 1; Stricture, with chills, 1, Syphilis, 3; Secondary syphilis, 1; Liability to secondary syphilis, 1.

Thoracic, 14.—Chronic cough, 1; Chronic cough with thoracic pain, 1; Chronic cough with emaciation, 1; Chronic cough with scurvy and debility, 1; Catarrh, 1; Catarrh with debility, 1; Catarrh of frontal sinuses, 1; Thoracic pains, 4; Asthma, with constipation, 1; Chronic pleurisy, 2.

Abdominal, 5.—Dyspepsia, 3; Constipation, 1; Hernia umb., 1.

Fever, 2.—Fever interm., 1; Fever, cephalic, 1.

Rheumatic, 8.—Rheumatism, acute, 2; Rheumatism with diarrhœa, 1; Rheumatism with loss of motion of lower limbs, 1; Rheumatism, chronic, 2; Chronic Rheumatism with emaciation, 1; Chronic Rheumatism with palpitation, 1.

Scrofula, 1.—Scrofulous Glands, 1.

Mental, 4.—Monomania, 1; Imbecility, 3.

Various, 10.—Debility, 2; Emaciation, 3; Chronic ulcer of leg, with eruption, 1; Chronic ulcer of leg, with thoracic disease, 1; Ophthalmia, 1; Subject to monthly fits, 1; Chronic neuralgia, 1.

Table of the Sickness of Coloured Prisoners on Admission.

Syphilitic, 8.—Gonorrhœa, 4; Syphilis, 1; do. secondary, 1; Syphilitic disease of ear and frontal sinuses, 1; Liable to secondary syphilis, 1.

Thoracic, 6.—Chronic cough, 2; Asthma, 1; Thoracic pains, 3; do. with Chronic cough, 1.

Abdominal, 4.—Dyspepsia with palpitation of the heart, 1; Subject to colic, 1; Dyspepsia, 1; Diarrhœa, 1.

Scrofula, 5.—Scrofulous glands and scrofulous inflammation of pleura and peritoneum, 1; Scrofulous ulcers and fistula of neck and throat, 1; Scrofulous ulcers of neck, 1; Scrofulous tumours of neck, 2.

Rheumatism, 5.—Rheumatism, chronic, with eruptions, 1; Rheumatism with thoracic pains and diarrhœa, 1; Rheumatism with cephalic pains, 1; Chronic rheumatism, 1; Acute do. 1.

Mental, 1.—Subject to mental disorder, 1.

Various, 7.—Leucorrhœa, 1; Sprain of wrist, 1; Amenorrhœa, 1; Chronic ophthalmia, with kidney complaint, 1; Emaciation, 1; Chronic headache, 1; Large chronic ulcer of leg, with diseased bone, 1.

These tables make it evident that the Eastern Penitentiary receives annually a heavy amount of disease from the community. They present one hundred and fourteen items of sickness introduced by seventy-five of one hundred and seventy-nine admissions, leaving only 56.65 per centage of healthy admissions. The coloured and the white prisoners are, it appears, about equally chargeable, yet it is also manifest, that whilst both bring chiefly Syphilitic and Thoracic disease, with other less serious forms of chronic complaints, that the coloured prisoner brings in also many cases of Scrofula, and that often in the same coloured prisoner there exists that sad combination of Syphilis, Scrofula, and Thoracic disease which results in the fatal cases of double chronic pleurisy of the negro, and makes the chief mortality of this Prison. It begins insidiously, first in one pleura, and, after crippling the motion of the ribs and diaphragm, filling the chest with fluid and shrinking up and binding down one lung, it passes to the opposite pleura, and fastens the other lung to the sides of its almost motionless cavity, enlarging this lung often to twice its normal size, and, by congestion and abscesses doubling its natural weight. If vitality continues, it attacks the membrane which covers the cavity of the abdomen and envelopes its viscera, studding it over with miliary tubercles and consolidating these viscera into a motionless mass: then it attacks the membrane of the brain and terminates life after a long protracted sickness. This, as I have observed the last three years, is the fatal disease of coloured prisoners. What agency long confinement, masturbation, full animal diet, cold and damp may have to hasten the issue, is worthy of more investigation.

The prisoners discharged this year classed in reference to health and colour are

1.—	White prisoners	admitted and	discharged	in good health, - -	35
2.—	do	do	do	imperfect do - -	15
3.—	do	discharged in improved		do - -	40
4.—	do	do	worse	do - -	8
1.—	Coloured prisoners	admitted and	discharged	in good health, -	27
2.—	do	do	do	imperfect do -	2
3.—	do	discharged in improved		do -	20
4.—	do	do	worse	do -	4

making of the one hundred and fifty-one total dismissions, seventy-five white and forty-seven coloured in good health, of which sixty were in improved health, and twenty-three white and six coloured in imperfect health, of which onlyt welve were in worse health than when admitted. The two following tables show the sickness carried out into the community by the ninety-eight white and fifty-three coloured discharged prisoners: the first presents twenty-four items of sickness, eight of which existed when the prisoners were admitted, and of the rest, six items were in prisoners admitted in imperfect health, four from self-abuse, three from unknown cause, and three from confinement; the other presents eight items of sickness, one of which existed on admission, three were in prisoners admitted in imperfect health, three from masturbation, and one unknown, viz:

Table of the Sickness of White Prisoners when Discharged.

Contracted out of the Prison, 8.—Ophthalmia, 1; Debility, 1; Injury of hand, 1; Thoracic pains, 2; Liability to hæmorrhoids, 1; Pulmonary disease, 1; Palpitation of heart, 1.

Contracted in Prison in Prisoners admitted in good health, 10.—Debility from confinement, 3; do. do. mast., 2; Dyspepsia do. do. 1; Disordered mind from masturbation, 1; Dyspepsia, unknown, 2; Slight peculiarity of mind, unknown, 1.

Contracted in Prison in Prisoners admitted in imperfect health, 6.—Debility, 3; Dysentery, 1; Dyspepsia, 2.

Table of the Sickness of Coloured Prisoners when Discharged.

Contracted in Prison in Prisoners admitted in good health, 4.—Slight peculiarity of mind from cause unknown, 1; Palpitation from masturbation, 1; Debility from do. 2.

Contracted in Prison in Prisoners admitted in imperfect health, 4.—Scrofula, 2; Cough and hæmoptysis, 1; Hernia, admitted with, 1.

These statements on the admission and dismission of prisoners show that, during the past year, this institution has received more disease from the community and discharged less than in 1838 and 1837. The admissions in good health have been 56.65 per cent., the dismissions 81.31 per cent., making a surplus of health from the prison of 24.76 per cent. The admissions in ill-health have been 43.35 per cent., the dismissions 19.87 per cent., making a surplus of 23.48 per cent. of ill-health from the community; so that the Eastern Penitentiary has been much more than the last year the recipient of disease and the dispensor of health. The truth of this remark is rendered more evident when the items of sickness themselves of the received and discharged prisoners are made the subjects of consideration and comparison. The one hundred and seventy-nine admissions introduced one hundred and twelve items, a majority of which belong to serious chronic diseases of vital organs, whilst the one hundred and fifty-one dismissions took out into the community only thirty-two items of sickness, and which were chiefly only ailments and disorders, many of which being either introduced or in prisoners admitted in imperfect health.

The health of this prison may be still more satisfactorily estimated by the following tabular details of sickness of the discharged prisoners during their imprisonment. These tables show, 1st, that the ninety-eight discharged white prisoners experienced, during imprisonment, one hundred and seventy-seven items of sickness of which forty-nine items afflicted the prisoners on their admission, twenty-seven were caused by self abuse, five were from cold and dampness of cell through wet scrubbings and drafts of air, forty-nine from heat of summer, full diet and confinement, seven from epidemic influence, one from prophylactic cause, and thirty-nine from a variety of not very satisfactorily specified causes: 2d, that the fifty-three discharged coloured prisoners experienced ninety-three items twenty-four of which afflicted the prisoners on admission, forty-six caused by self abuse, seven from cold and damp, eleven from full diet and confinement, one from epidemic influence, one from the nature of the prisoner's occupation and tfrm unascertained causes.

Table of the Sickness of the ninety-eight discharged White Prisoners during their imprisonment.

Sickness when admitted, 49.—Ophthalmia, 4; Debility, 3; Intermittent fever, 2; Rheumatism, 2; Thoracic pains, 3; Catarrh, 1; Chronic catarrh, 3; Cephalic plethora, 3; Dysentery, 1; Gonorrhœa, 4; Syphilis, 2; Stricture in urethra, 3; Asthma, 2; Fever, 6; Epileptic fits, 1; Hernia, 2; Plethora, 1; Hæmorrhoids, 1; Imbecility, 2; Secondary syphilis, 2; Fistula in ano, 1.

Sickness from Mst. 27.—Ophthalmia, 1; Debility, 1; Dementia, acute, 5; Dyspepsia, 12; Thoracic pains, 1; Cephalic plethora, 2; Spinal irritation, 1; Pain in the heart, 1; Noc. emission, 2; Chronic vomiting daily, 1.

Sickness from colds and damps, &c., 5.—Debility, 1; Rheumatism, 1; Catarrh, 1; Intermittent fever, 1; Frosted hands, 1.

Sickness from S. heat, full diet and confinement, 49.—Diarrhœa, 24; Dyspepsia, 20; Dysentery, 4; Cholera morbus, 1.

Sickness from epidemic causes, &c., 8.—Small-pox, 1; Varioloid, 4; Fever, 1; Influenza, 1; Vaccine fever, 1.

Sickness from unascertained causes, 39.—Anthrax, 1; Eruptions, 2; Maw worms, 1; Ascarides, 1; Pain in the shoulder, 1; Cough, 1; Hypochondria, 1; Hallucination, 2; Fever, 3; Stricture in rectum, 1; Colic, 1; Hæmoptysis, 2; Thoracic pains, 1; Intermittent fever, 5; Catarrh, 5; Constipation, 3; Scurvy, 1; Tympanites, 1; Chopped hands, 1; Enlargement of heart, 1; Hepatitis, 1; Chronic pleurisy, 1.

Table of the Sickness of the fifty-three discharged Coloured Prisoners during their imprisonment.

Sickness when admitted, 24.—Eruption, 1; Thoracic pains, 1; Extensive ulcers from burn, 1; Gonorrhœa, 2; Hæmorrhoids, 2; Typhus pneumonia, 1; Scrofulous tumour, 4; Stricture of urethra, 2; Chronic catarrh, 1; Cephalic Pain, 1; Syphilis, 2; Constipation, 1; Debility, 1; Dysentery, 1; Fever, 2; Necrosis, 1.

Sickness from Mst., 46.—Thoracic pains, 3; Soreness of shoulders, 2; Chronic gripings, 1; Dyspepsia, 12; Noc. emissions, 1; Libid. dreams, 1; Cephalic Pains, 3; Vertigo, 1; Hallucinations, 3; Soreness and weakness of back, 1; Sternal pains, 1; Diarrhœa, 2; Pyrosis, 1; Dysentery, 1; Dementia, 3; Palpitation of heart, 1; Gastrodynia, 1; Pain in tes. and abd., 1; Pain in the bones, 1; Pain in eye-ball, 2; Fever, 2; Ophthalmia, 1; Paraphymosis, 1.

Sickness from cold and damp, 7.—Catarrh, 2; Chronic catarrh, 1; Rheumatism, 3; Chronic pleurisy, 1.

Sickness from full diet and confinement, 11.—Plethora, 1; Headache, 1; Diarrhœa, 6; Eruption, 3.

Sickness from occupation, 1.—Thoracic pains, 1.

Sickness from unascertained causes, 3.—Scrofula, 1; Hæmoptysis, 1; Debility, 1.

These tables show two hundred and seventy items of sickness in one hundred and fifty-one prisoners during their imprisonment under the separate system. The seventy-three items introduced on admission of the prisoners being deducted, leave one hundred and ninety-seven chargeable on the imprisonment. Now of this amount of sickness, seventy-three items were owing to self-abuse, forty-six of which belonging to fifty-three coloured prisoners, and the rest to causes susceptible of correction and not inseparable from confinement, so far at least as regards the white prisoners. An interesting question arises, have these one hundred and fifty-one discharged prisoners been as sickly during imprisonment as when at liberty in the community during the same space of time? A direct answer can only be afforded by a tabular detail of their sickness during said time of which I have not the data. An inferential answer however is furnished by the following estimate. The shortest imprisonment among the ninety-eight white discharged prisoners was one year, the longest six years, consequently the average imprisonment of any one of them was three years six months. The sickness on admission being deducted, these ninety-eight prisoners had one hundred and twenty-eight items of sickness in three and a half years, which affords annually only about thirty-six items; then two thirds of the ninety-eight prisoners were without sickness during imprisonment and one-third of them had each only one item of sickness annually. Again, the shortest imprisonment among the fifty-three coloured discharged prisoners was one year, and the longest five years, making for each an average imprisonment of three years. The sickness on admission being deducted, these fifty-three prisoners had sixty-nine items of sickness in three years, affording only about twenty-four items in a year; then more than half of the fifty-three coloured prisoners were without sickness during imprisonment, and less than half of them had each but one item of sickness annually. This estimate presents the strong probability, that the one hundred and fifty-one discharged prisoners have enjoyed more health, during their imprisonment in the Eastern Penitentiary, than when at liberty in the community. And when the other prisons, North of the Southern slave States, shall have made the important distinctions, as here presented, between their white and coloured prisoners, and shall have presented the same tabular details of sickness, a decision may be made as to the most healthy prison in the Northern and North Western sections of our country. The estimate of the time of imprisonment, given above, affords an additional fact, bearing on the health and character of this institution. The aggregate imprisonment of the ninety-eight white discharged prisoners is equal to the imprisonment of one of them for one hundred and seventy-eight years, but that of fifty-three coloured, is equal to the imprisonment of one of them for one hundred and twenty-six years, which is beyond that of the white, proportionately, by twenty-six years, then the imprisonment of a coloured prisoner is equal to one and one-quarter white prisoner. The coloured prisoner, therefore, who has been shown to be longer sick than the white, more subject to disease from self-abuse, more liable to fatal illness, and in confinement likely less efficient in work, is also, it appears, longer imprisoned.

The enclosed tables show the number, character, and monthly distribution of sickness which have occurred the past year. In amount it has been one-third less than that of either of the two previous years: the cases of fever, catarrh, dyspepsia, diarrhœa, and dysentery, have all been fewer. And although there have been a greater number of cases of disturbed mind, the cases of acute dementia have been fewer and of shorter duration: the rest have been instances of hypochondria and hallucination of a few days' continuance, except No. 842, a case of mania reported in 1839 and pardoned last July, and three cases existing on admission, as appears from the following tables.

TABLE OF THE MENTAL DISORDERS IN THE EASTERN PENITENTIARY DURING 1839.—WHITE PRISONERS.

Prisoners.	*Age.*	*Country.*	*Health on admission.*	*Diseases.*	*Causes.*	*Effects of Treatment.*	*Duration of Attack.*			*After imprisonm't*			*Present state of each Prisoner, January 1, 1840.*
No.	ys.						y.	m.	d.	y.	m.	d.	
947	46	Pennsylva.	Asthma and Pleuritic Pain,	Hypochond.	Unknown,	Cured,			4		5	9	Disch'd from E. P., Sep. 17, '39, in sound mind and health.
867	30	N. York,	Dysentery and Gleet,	do	do	Relieved,			22	1	0	21	do do April 13, do
784	21	England,	Good mind and health,	do	Mst.	Cured,			10	1	7	5	do do July 3, do
926	39	Germany,	Plethora and pain of chest and abdomen,	do	Unknown,	Relieved,			24	1	1	16	do do May 3, in sound mind, imperfect health.
988	40	Ireland,	Hallucinations, from mania a potu,	Hallucinat'ns	Intem.	Continues,						1	A worthless prisoner, subject to violent fits of anger.
975	26	Pennsylva.	Imperfect health, and mind disturbed,	do	Unknown,	Cured,			18		10	24	Disch'd from E. P., Sept, 8, '39, in sound mind and health.
1128	55	Delaware,	Good, but hard drinker and distressed,	do	Intem.	Relieved,			16		7	19	At work at knitting, and continues distressed.
1069	40	Pennsylva.	Monomania,	Monomania,	do	Pardoned,						1	Pardoned and sent to the Alms-House.
1039	26	Germany,	Eccentricity of mind,	Eccentricity of mind,	do	Relieved,			16		1	16	In third block of cells, picking wool, and in sound mind and health.
1055	21		Scrofula,	Dementia, acute,	Mst.	Cured,			11	1	3	0	In seventh block, at weaving, and in sound mind and health.
1062	29		Good health,	do	do	do			5	1	2	0	In fourth block, at shoemaking, and in sound mind and health.
673	59	Pennsylva.	Imperfect, and mind troubled,	do	Unknown,	do			11		7	12	In third block, at making hickory brooms, in sound mind and health.
842	27	Holland,	Good health, disturbed mind,	Mania,	do	Pardoned, July, '39,	1		23		7	12	Sent to the Alms-House.

COLOURED PRISONERS.

Prisoners.	Age.	Country.	Health on Admission.	Diseases.	Causes.	Effects of Treatment.	Duration of Attack.			After imprisonm't			Present state of each Prisoner, January 1, 1840.
No.	ys.						y.	m.	d.	y.	m.	d.	
492	28	Pennsylva.	Good, mind discontented,	Hypochond.	Mst.	Relieved,			7	3	3	10	In fourth block (infirmary), good health, self willed and malicious.
531	21	Maryland,	Good,	do	do	Cured,		1	9	3	3	22	In fifth block, at shoemaking, in sound mind and health.
1107	19	Delaware,	do	Hallucinat'n,	do	do			13			25	In infirmary, and wishes to go to work.
924	19	Maryland,	Gonorrhœa, wilful,	do do	do	do			7		6	10	" do has been at spooling, but is too worthless to be continued at work.
1096	18	Pennsylva.	Good,	do	do	Relieved,			17		6	17	Is again in infirmary for hallucination.
746	23	do	Subject to vertigo,	do	do	Cured,			9	1	4	2	In fourth bl'k, weaving, in s'd m'd & h'th.
845	21	N. Carolina	Good,	Dementia, acute,	do	do		2	20	1	4	3	Discharged from E. P., Aug. 30, 1839, in sound mind and health.
588	29	N. Jersey,	Typhus Pneumonia, from Arch st. Pris.	do	do	do			2	2	8	28	Discharged April 19, 1839, in sound mind and improved health.
1021	26	Va. a run. slave, mur.	Rheumatic, destructive disposition,	Deviltry,	Unknown,	Continues,					1	17	Continues to be very destructive, otherwise reasonable.
569	29	Pennsylva.	Good,	Dementia,	Mst.	do				2	10	5	In good health, and mind much restored, and disposed to be at work in his own way, very pleasant and mild.
921	23	Delaware,	Syphilis,	do	do	Cured,		1	9		9	6	He died, Aug. 24, 1839, of chronic pleurisy and scrofula.
632	26	Pennsylva.	Health good, revengeful,	do	do	do		1	6	2	6	14	Discharged E. P., Aug. 19, 1839, sent to Moyamensing Prison.
984	18	Philad'a.	Good,	do	do	do			27		8	22	In 3d bl'k, picking wool, in s'd m'd & h

The above tables show that the cases of disordered mind have occurred in early manhood with few exceptions, that four of them happened after more than two or three years imprisonment, but the rest within an average confinement of about seven or eight months; that they have generally yielded to a short medical treatment; that about sixty-one per centage of them have been caused by self-abuse, and that there has been three per cent. more of the cases among the coloured than the white prisoners. Its physical cause is here indicated. The cephalic disorders here presented is not that insanity of mind which solitude, confinement and oppression may produce on a cultivated intellect and high tone and spirit. The cell of the prisoner is lighted and ventilated, its stone walls and iron door is the end of the law to him, and all the rest is only kindness; the visits of the Keepers, Superintendents, Warden and Inspectors, destroy the ennui of solitude, and make it only a separation from idleness and vice. He is employed in profitable work. When he is sick prompt medical aid is afforded and nursing. Six days he labours and on the Sabbath he rests, reads his Bible and listens to the voice of his Moral Instructor who has often visited him. There cannot be much in such solitude and confinement to induce insanity. The form of disordered mind here found is of a physical character—a brain complaint—a congestion of the cerebellum most generally. The refuse of the coloured population who, owing to our proximity to the slave States, constitute a disproportionate number of the prisoners, are here deprived of sensual indulgence, except self-abuse, and in this therefore they are excessive, as are also the less intelligent white prisoners; consequently the organs of digestion become weakened, and confinement then with full animal diet, are unitedly not harmless, cephalic pains follow, disturbing dreams, depressed spirits, he continues the injurious practice, and hallucinations, violence and incoherence follow, and if the prisoner be not properly treated the case becomes one of chronic and incurable dementia. Separate the coloured prisoners from this institution and the instances of disordered mind will become comparatively few.

The following tables exhibit a view of the disease, their causes, the state of health on admission, and length of imprisonment at the time of the decease of each of the fatal cases this year among the white and coloured prisoners.

All the diseases of this table are of an incurable character, being either general scrofula, tubercular consumption, a chronic scrofulous disease of the pleura extending to the peritoneum and membrane of the brain and originating in syphilis, intemperance, typhus fever, and scrofula, and under confinement aggravated by excessive masturbation. These eight deaths are among one hundred and seventy-three coloured prisoners, making 4.62 per cent. of mortality. An additional death of a coloured prisoner occurred after being discharged from the sick list as convalescent. No satisfactory cause of his death could be ascertained. He had been admitted aged and so diseased that he was carried to his cell and put under medical treatment and had been off and on the medical register until shortly before his sudden death; I regarded it a case of asthenia. Including this case the deaths in the Penitentiary this year have been eleven, viz.; two white and nine coloured, among four hundred and eighteen prisoners, making 2.63 per cent.

WHITE PRISONERS.

Prisoners.	*State of health on admission.*	*Diseases (fatal).*	*Causes.*	*Length of im. at decease.*
No.				
802	Syphilitic and Thoracic disease,	Syphilitic Chronic Pleurisy,	Chronic dis. on admission, Mst., &c.,	1y. 7m. 22d.
770	Syphilis,	Asthenic Brain Fever,	Debility of mind and body, Masturbation and confinement.	

The two deaths, both of which are from diseases of an incurable character, are among 245 white prisoners, making 81. per. cent. of mortality.

COLOURED PRISONERS.

Prisoners.	*State of health on admission.*	*Fatal Diseases.*	*Causes.*	*Length of im. at decease.*
N.				
807	Supposed to have been in good health,	Scrofula and Chronic Peritonitis,	Strumous habit, - - - -	2y. 4m. 20d.
686	do do do	Double Chronic Pleurisy, - -	Unknown, - - - -	2 3 24
812	Chronic disease of the chest, - -	Brain Fever, - - - -	Masturbation and Chronic Pleurisy,	1 6 25
603	Debility from recent typhus fever in Walnut Street Prison,	Scrofulous hip-disease, - -	Typhus Fever and Strumous habits,	2 11 22
921	Syphilis and recent mania a potu, -	Scrofula and Chronic Pleurisy, -	Syphilis, Intemperance and Mst.,	1 3 15
1120	Scrofula and chronic disease of chest and abdomen,	Scrofula and double Chronic Scrofula, Pleurisy and Peritonitis,	Scrofula, Genital Debility and Mst.,	3 3
944	Thoracic disease, (a slave,) - -	Pulmonary Consumption, -	Various and continued hardships, &c.,	1 3 28
368	Syphilis, - - - - -	Double Chronic Pleurisy and Chronic Pleurisy, with gen'l Scrof. & Syph.	Syphilis and Masturbation, -	4 8 16

My endeavour, gentlemen, in this report, which I respectfully submit for your examination, has been to make a full exposition of the medical condition of the Eastern Penitentiary. First, because prison discipline and especially that of this institution in regard to its effect on the mind and bodily health has become a subject of interest, and has created a reasonable expectation that the physician will not only candidly state the result of his experience, without regard to the opposing views which exist on this subject, but also that he present the facts, in concise tabular forms, on which his opinions are founded; that others may be furnished with equal opportunities to form their opinions, and that he may be relieved of a responsibility which is equally useless and unnecessary. Second, that your attention may be fully directed to the oppressive amount of prisoners derived from the coloured population, and the important relation of this circumstance to the sickness, mortality, and cases of mental disorder in this Penitentiary. Third, that a correction may be afforded to two erroneous impressions, one of which has been made by presenting an aggregate per centage of mortality without the important qualification existing in the facts, that north of the slave States the mortality of the coloured population to that of the white is as five to two; that every death is reported in public institutions, whilst those in the community, especially among the coloured population, may likely not be; and that the mortality in this prison, is chiefly among the refuse of the coloured population of a State so contiguous to the slaveholding States that in the country in which this Penitentiary is located there is estimated to be a coloured population of from twenty to twenty-five thousand, the vagrants of which become prisoners. In view of these facts the said mortality is not disproportionate to that in the community, and attention may here be properly called to the condition of the discharged coloured prisoners, that fifty-five of the sixty-two were sent out in good health, twenty-four of whom in improved health. The other erroneous impression consists in an unqualified notice of the cases of dementia, regard to the facts in relation to them, which were contained in the reports of 1837, and 1838, viz: that they occurred chiefly among the coloured prisoners, originated generally in self-abuse, existed during the early period of imprisonment and with few exceptions were in a short time removed by medical treatment. In conclusion permit me to remark that if a modification of the separate system were adopted for this unexpected amount of coloured prisoners, and the present institution were devoted to the white prisoners, that the separate system would satisfy every demand of justice, morals, health, and profit.

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Lectures on the Science of Human Life. BY SYLVESTER GRAHAM. 2 vols. 12mo. Pp. 562-660. Boston, 1839.

WE have met with few treatises on the Science of Human Life, especially among those addressed to the general reader, of equal merit with the one before us. The author, instead of following in the ordinary route pursued by popular writers on the principles of hygiene, has endeavoured, from an examination into the nature of the human organism, of the vital laws with which it is endowed, and the effects produced upon it by external agents, to deduce the means best adapted to prolong its health and vigour to the latest possible periods—in other words, to establish a correct system of hygiene upon the basis of physiology. The subject is treated in all its details with uncommon ability. Untrammeled by the opinions of those who have preceded him in a similar investigation, the lecturer has examined for himself every point connected with it, and has, in more than one instance, been led to the adoption of views altogether different from those generally entertained.

Whatever may be the estimate formed by different individuals of some of the doctrines advanced in these lectures, there is no one, we are persuaded, who will not derive both gratification and instruction from an attentive perusal of them. The physiological views they contain are in general correct, and expressed with perfect clearness. Even those particulars in which the opinions of the author differ from those of our leading physiologists, present very forcible claims to our attention, from the ingenious manner in which they are defended and enforced,—while the hygienic precepts peculiar to Mr. Graham, false and ridiculous as they may appear to those who have not given sufficient attention to the subject, have this important recommendation, that in any instance in which they may be followed out in practice, even to their fullest extent, they cannot fail to be productive of an increased vigour of the moral and physical powers of the constitution.

The very ultraism of the lecturer on certain particulars are, we conceive, better calculated to produce a beneficial reformation in those popular practices that are adverse to the health and well-being of man, than the awkward attempts which have been made by a few modern writers on hygiene to accommodate its rules to the requirements of fashion, the cravings of a vitiated appetite, or the suggestions of pride or of interest. The bold originality of thought which pervades the lectures before us, and their perfect freedom from those errors into which most writers who treat on the same subjects have fallen, by following too implicitly the dogmas of their predecessors, constitute one of their chief recommendations.

The style of Mr. Graham, though sufficiently pleasing, is rather diffuse. Had he adopted a manner more strictly didactic, he would have rendered his work far more popular, and at the same time would have been enabled to condense the curious and instructive matter it contains into a much smaller compass. Of this the author himself appears to be fully sensible.

"If my design," he remarks, "had been to prepare a work for the scientific reader only, I should have written it in a very different style and method, but my desire is to carry my instructions into every family, and to be understood by every individual of ordinary capacity; and, if I have not erred in judgment, I have not retained more diffuseness of style, nor copiousness of illustration, nor indulged more in repetition than the best adaptation of such a work to the popular mind requires. My great object is to have the principles which I inculcate clearly understood; and minds wholly unaccustomed to scientific investigation cannot readily apprehend the general principles of such a complicated subject, without a fulness of explanation and illustration approaching to redundancy."

The first eight lectures are devoted to a general consideration of the organization of the human body, and of its relation to the external world. The author's remarks on all the leading particulars connected with this portion of his subject are highly interesting and, generally speaking, sufficiently accurate. Although some of the opinions he has advanced, more especially in reference to the nervous system, may be viewed as mere hypotheses, they will, nevertheless, be found to be highly ingenious, and to explain more readily many of the phenomena of health and of disease than those generally adopted.

In a few particulars the lecturer has fallen into error, or, to speak more correctly, has neglected to notice some of the more recently established physiological facts. These errors or omissions are not, however, of a character to effect materially the correctness of his conclusions. Thus, all that he states of the blood and its relations to the organism is true, whether we consider fibrin to exist in the blood independently of the globules, a fact which is very easily demonstrated, or suppose it, with the author, to be merely the globules divested of their colouring matter. His observations, also, in reference to the sympathetic connection of the several portions of the body will be found to be perfectly accurate; whether we consider, with him, this connection to be formed by the union of the different nervous branches, or, as is more probably the case, by a reflex action totally independent of any direct nervous connexion.

The ninth and tenth lectures treat of intellectual and moral physiology, and contain many original views in relation to the mental powers of man in their healthy and diseased conditions. The observations of the author on the phenomena of dreaming, of intoxication, and of insanity, although somewhat obscured by the very diffuseness which he has adopted with the view of adapting them to the comprehension of the unscientific reader, are peculiarly interesting. These observations occupy too much space to allow of their being quoted entire, and they do not admit of a satisfactory analysis. We regret our inability to lay before our readers the views of Mr. Graham contained in these two lectures, as well as in the succeeding one, which treats of the general law of relation between the instincts and voluntary powers and the intellectual faculties, and of the moral powers of man, inasmuch as they are marked by great depth of thought, and present a very happy exposition of some of the most intricate points connected with intellectual and moral physiology. This portion of the work will be found equally interesting to the scientific as to the general reader.

The doctrines of phrenology, a brief exposition of which is contained in the ninth lecture, the author appears to be somewhat in doubt whether to reject or adopt. The objections he offers to them are neither very powerful, nor urged with much force, and he appears inclined to wait, previously to making up a decided judgment as to their truth or falsity, for additional facts and observations.

"I freely admit," he remarks, "that, all my reasoning being true, there may still be a plurality of organs in the brain, and I do not affirm that there is not,—but I contend that it is a matter which yet requires proof:—and, whether true or not, the phrenologists have evidently made the contents of the skull too exclusively the machinery and source of the mental and moral powers and animal propensities.

"The brain, whether consisting of a single organ, or of a system of organs, is unquestionably the seat of intellect, but it is not equally evident that it is the seat of all the animal propensities:—though it is possible that each propensity has its special organ of perception in the brain. We know that if the nervous communication between the stomach and the centre of animal perception be cut off the animal can have no perception of hunger, and it is very certain that hunger is a special sense produced by a peculiar physiological condition of the nervous tissue of the stomach and perceived by the animal centre, but neither the hemispheres of the brain, nor the lobes of the little brain, are essential to the animal perception of hunger or desire for food.

"We are told that some men can feel the exercises of particular parts of their brain in their mental operations; but I leave those to believe such things who can—and I ask if ever any one felt his brain to be the seat of his propensities and emotions? Have not mankind in all ages, from mere feeling or consciousness, always referred these emotions to the epigastric region?"

"But shall I be asked, if I intend to affirm or imply that the mind has one seat and the propensities and sentiments another, and that the abdominal viscera have an independent power of sensibility within themselves, and constitute the special organism of the animal propensities and moral sentiments? I reply, that I mean simply to affirm that there is a oneness in the nervous system of the human body—that to a certain extent, and for certain purposes, the nerves of organic and of animal life constitute a single whole, and that the point of unity or centre of perception of this single whole is at or near the top of the medulla oblongata. In the domain of organic life, we have seen that there are special centres for special purposes, and a common centre which presides over the whole internal economy, and so far as the wants of the vital economy require the exercise of voluntary functions, the animal centre has a perception of these wants; or, in other words, the vital economy manifests these wants by producing certain physiological conditions of the tissues of certain organs in its organic domain—and the animal centre, by means of nervous connexions established for the purpose, perceives these physiological conditions, and thus they become special senses; and as strictly so as sight, hearing, smell, taste, and touch. The animal centre then, as a unit, does, as it were, throw out its feelers into every portion of the body internally and externally. By the internal feelers it perceives those physiological conditions of the organic domain, which, being perceived, constitute the sense of hunger, thirst, &c., and thus it has cognizance of all those internal conditions which directly relate to the voluntary powers. By its external feelers it perceives those impressions made by the qualities of external things, which constitute the senses of touch, taste, smell, hearing, and vision; and thus we are enabled to perceive both our internal wants and the external supplies. The perceptions of the animal centre are all instantly reflected on the intellectual organ or organs, and produce thoughts of reflection in the manner I have described. Moreover, as we have seen, the brain and all the nerves of animal life continually and entirely depend on the functional integrity of the nerves of organic life for their own functional powers; and, therefore, though we have no special sense of perception by which we are informed of all the functional observations in the domain of organic life, yet the brain always sympathizing in the general conditions of that domain, we are conscious of the effect without knowing the cause."

Lecture eleven is devoted to a consideration of the question:—How long can man live? It is discussed with the author's usual acuteness. He remarks, that whatever may be true as to the precise length of the period of human existence before the flood, it cannot be reasonably doubted that the primitive generations of mankind very greatly exceeded in length of life the present inhabitants of the earth. Nevertheless, it appears very evident, he adds, that for the last three thousand years the general average of human life has remained pretty nearly the same. The lecturer, however, maintains the possibility, by a proper course of life, of prolonging man's existence far beyond the limits to which it now ordinarily attains, and with the enjoyment of a degree of health, vigour and cheerfulness, sufficient to render such a prolongation desirable. The remarks on this important subject are pertinent, and in strict accordance with a correct physiology. Those who may feel inclined to deny the truth of the general conclusions at which the author arrives, will find it no easy matter to overthrow the arguments upon which these conclusions are based.

The twelfth lecture treats of the laws of the constitution and the relation established between the blood and all the substances from which it is formed, and in and between all the organs of the body and the substances designed for them to act upon. The several subjects treated of in this lecture are all-important in reference to their bearing upon the rules of hygiene. Some interesting remarks are made upon the substances employed for food—the principles to which they refer, though susceptible of very ready proof, are often overlooked by medical men, and almost invariably by the unprofessional.

"Like the atmospheric air, all those substances in nature designed for human aliment, are composed of certain proportions of nutritious and innutritious matter; and the alimentary canal, like the lungs, is constituted with determinate relations to the constitutional nature of alimentary substances in this respect. I do not say that the stomach, like the lungs, is constituted, to receive natural substances containing precisely one volume of nutritious with four of innutritious matter:—but that the stomach and intestines are, like the lungs, really and truly constituted to receive substances composed of both nutritious and innutritious matter, and that there is somewhere a point of truth in the proportions, best adapted to the constitution and functional powers of the alimentary canal, and the vital welfare of the whole system; and that, so far as we vary from this point of truth, by increasing or diminishing the proportion of the nutritious to the innutritious matter of our food, we do, as a general fact, injure the alimentary canal, and, through it, the whole body. And it is very certain, that too great a proportion of nutritious matter in our food is little less dangerous to our digestive organs, and to the vital interest generally, than too small a portion."—"If, therefore, instead of supplying the alimentary organs with food composed of due proportions of nutritious and innutritious matter, we artificially separate the nutritious from the innutritious, and supply the alimentary organs only with the concentrated nutritious matter, we will soon destroy the functional powers of the organs, break down the general function of nutrition, and cause atrophy and death."

Several striking facts are detailed in illustration of the position here advanced. Many others might have been given. Several are recorded by prominent physiological writers, no one of whom has presented a satisfactory explanation of them.

In the ensuing eleven lectures we are presented with a full exposition of the peculiar views of the author in relation to "the proper food of man." It is known probably to all our readers that Mr. Graham is an advocate for an exclusively vegetable diet, and that he maintains such a diet to be not merely the best adapted to promote the full development of the human body, as well as to preserve its health and vigour to the latest period, but, in fact, the only one upon which man was intended to subsist, and for the proper digestion of which his alimentary organs are especially constructed. No little ridicule has been cast upon the author in consequence of these opinions; which for a number of years past he has advocated in his public lectures. The ridicule has, in general, emanated from individuals entirely ignorant of the subject—and whose ideas of the physiological aptitude of the stomach for particular species of food are derived from the habits of the society in which they move, and who have never attempted to estimate and compare those facts from which alone a judgment can be formed of the influence that particular kinds of diet exert upon the health and well being of the animal organism. We do not profess to be converts to Mr. Graham's ultra system of dietetics, nor have we become convinced by his arguments that the human stomach is not adapted for the digestion of a mixed diet of animal and vegetable food. We, nevertheless, are aware that the most conclusive facts may be adduced to prove that man is capable of subsisting upon vegetable food alone, and of attaining, when restricted to it, the fullest development of all his powers and capabilities, and of living to an advanced age in the enjoyment of the most perfect health and vigour. Nay, more; we feel convinced that a diet composed of a large proportion of animal food is decidedly prejudicial in the great majority of persons. We fully coincide with the lecturer, in the proposition with which he sets out, that "the simpler, plainer, and more truly natural the food of man, the better it is adapted to all his physiological and psychological interests," and that a large number of the preparations which our food undergoes previous to its being received into the stomach detract from its fitness as aliment.

They who will attentively and candidly study the facts and arguments adduced by our author on the subject of diet, cannot but be struck by their force, and will be little inclined to treat his opinions as absurd hypotheses, even though they may not be willing to admit in every instance their entire accuracy.

After a very brief sketch (lecture 13) of the general history of the human family, from the earliest times to the present, in especial reference to the nature of the food employed, compared with the average duration of life and liability to disease, the lecturer (lecture 14) considers the question of the natural dietetic character of man as one of comparative anatomy and physiology. He contends that naturalists have reasoned falsely, or from erroneous data, in predicating the supposed fact of man being an omnivorous animal upon his anatomical structure. He compares the human masticatory and digestive organs with those of carnivorous, herbivorous, and omnivorous animals; and concludes, from this comparison, that "the whole evidence of comparative anatomy, when correctly apprehended and accurately estimated, goes to prove determinately that man is naturally a frugivorous animal." The observations of the author on this head are marked by uncommon acuteness: they prove conclusively, that the distinctive characteristics of carnivorous, graminivorous, and omnivorous animals, adopted by naturalists, are by no means so well established or strongly marked as many suppose.

In confirmation of his general proposition, that man is naturally frugivorous the lecturer adduces the testimony of Linnæus, Sir Everard Home, Cuvier, Lawrence, and Thomas Bell, all of whom infer from a consideration of the anatomical structure of the alimentary organs of man that, in the words of Baron Cuvier, "the natural food of man, appears to consist of fruits, roots, and other succulent parts of vegetables."

> "With such conclusive evidence from comparative anatomy, and so full an acknowledgment from the most distinguished naturalists, anatomists, and physiologists, the question in regard to the natural dietetic character of man, might reasonably be supposed to be fairly and fully settled; yet, surprising as it may appear, even Baron Cuvier, after declaring that the evidence of comparative anatomy proves man to be naturally a frugivorous animal, and that his masticatory organs would allow him neither to feed on grass nor devour flesh, were these aliments not previously prepared by cooking, adds, 'that man, once being possessed of fire, and those arts by which he is aided in seizing animals, or killing them at a distance, every living being was rendered subservient to his nourishment; thereby giving him the means of an infinite multiplication of his species.' And Professor Lawrence, with a full admission of the completeness of the anatomical evidence in favour of man's frugivorous character, and a frank acknowledgment that the general history of the human race proves that animal food is not necessary to render man strong and courageous; and that vegetable food is as little connected with weakness and cowardice,—that men can be perfectly nourished, and their bodily and mental capabilities fully developed, in any climate, by a diet purely vegetable, still contends that man does quite as well, and perhaps better, on a mixed diet of vegetable and animal food, and occasionally indulges in a sneer against those who favour the idea that a purely vegetable diet is best adapted to sustain the human system in all its properties and powers. In attempting to sustain this opinion, however, he misapprehends many facts, perverts many others, assumes false positions, makes wrong inferences, arrives at erroneous conclusions, and not unfrequently contradicts himself."

In reply to the argument, that while the gastric fluid of the carnivorous animals is adapted for the digestion of flesh only, and that of herbivorous animals of grass and other vegetables, the gastric fluid of the human stomach readily digests both animal and vegetable food, and hence proves him to be naturally ominivorous in his diet, the lecturer adduces the power of adaptation which is possessed, to a certain extent, by the stomach of nearly all animals.

> "While," he remarks, "the digestive organs are constituted and endowed with the most perfect natural adaptation to certain kinds of aliment, yet, to secure life as far as possible against emergencies, these organs possess the physiological capability of adapting themselves to an extensive variety of alimentary substances, as circumstances and necessities require ; and, therefore, the extent of the physiological adaptability of the digestive organs, is probably much greater than that of any other organs in the system."
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> "Now, if this physiological adaptability were peculiar to the human stomach, it would certainly go very far towards proving that man is naturally an omnivorous animal; but when we know that it is common to the horse, ox, sheep, lion, tiger, cat, dog, and, indeed, to all the higher classes of animals, and perhaps to the whole animal kingdom, we see that it proves nothing but the wonderful resources of animated nature, and the wisdom and benevolence of God. Both carnivorous and herbivorous, as well as frugivorous animals, generally, in the higher classes, at least, possess this scope and versatility of digestive power, nearly or quite as extensively as man ; and therefore if it proves man to be naturally omnivorous, it equally proves the lion and the ox, the vulture and the lamb, and other animals generally, to be naturally omnivorous."

The lecture concludes with some very sensible remarks on the proportions of nutritious matter in vegetable and animal food, the physiological effects of flesh meat on the human body, the physiological difference between animal and vegetable food in sustaining the body in labour ; all of which demand a candid examination on the part of those who would wish to understand fully a most interesting point in dietetics—the practical bearing of which is equally important, whether the opinions of the author, in relation to the natural and proper diet of man, be adopted or rejected.

Lecture fifteen is replete with reflections which recommend themselves most forcibly to the serious consideration of every individual desirous of promoting his own happiness and well-being as well as that of his offspring. Although the author may be considered somewhat imaginative in some of the views and illustrations set forth in this lecture, all his leading propositions are nevertheless based upon a sound physiology, and supported by the most conclusive evidence.

With all the seeming contradictions in nature to the principles which he has advanced, in relation to a fixed relation existing between the bodily symmetry and mental and moral powers of man, he—

> "Still contends for the interesting truth, that the most perfect intellectual and moral character of which human nature is capable, is only to be developed in the most perfect body, a body which is the most perfectly symmetrical,—not only in its general contour, but in all the details of its organization."

The author proceeds, also, to point out and illustrate the fixed relations between the bodily symmetry and beauty and the moral influence of man as an individual, and the moral character of society—and insists therefore upon man's obligations to cultivate the bodily symmetry and beauty of the species. He shows the almost invariable tendency of bodily and organic imperfections to be transmitted from parent to child through numerous generations, unless this tendency be arrested by some powerful counteracting cause.

The necessity of returning to a natural diet is strongly insisted upon as a means of securing symmetry of development, and of regaining the perfect form of the original type of the human species.

In this lecture will be found a curious and interesting inquiry into the causes which have produced and perpetuated the varieties of the human family.

Towards the close of the lecture, the author, with great truth, remarks that in attempting to test physiological principles by the apparent facts of human experience and history, a great variety of modifying causes must be taken into consideration; some of which are detected with great difficulty, while it is even more difficult to estimate their true force with exactness and certainty.

"No considerable portion of the human family has ever adopted and permanently pursued a mode of living which, in all respects, was regulated by correct physiological principles, and, therefore, no human experience can justly be considered as a full and fair test of such principles. Nevertheless, the principles themselves may be ascertained with entire certainty. The facts which have been adduced as evidence on the topic before us, are all of them to be regarded as, in some measure, mixed results. Flesh eating is not to be considered as the exclusive cause of all the physical and physiological facts in the history of those who subsist on animal food:—other causes, favourable or unfavourable to the physiological interests of the human constitution, universally, and in some instances powerfully coöperate:—and all this is true of those who subsist on vegetable food. Human history as it is, therefore, when taken in the detail, is of little value to physiological science; yet when taken in its general average, and correctly estimated, its evidence becomes very conclusive. If we contemplate flesh eating tribes and nations, we find some individuals comparatively small, and some comparatively large; some comparatively ill-formed and some comparatively well-formed; and if we turn our attention to vegetable eating nations we find the same facts. If, also, we compare vegetable eaters with flesh eaters in the detail, we find some of the former smaller and less symmetrical than some of the latter, and the contrary; and from such views we are led to conclude, that nothing is to be proved from human experience in regard to the natural dietetic character of man, except that he is made to eat everything with equal advantage. Yet when we take a general view, and compare average results, we find a manifest difference; and the evidence becomes perfectly conclusive. We find that taking all flesh eating tribes and nations together, though some of them whose circumstances and habits are most favourable to the physiological interests of the human constitution, are comparatively large and well-formed; yet, as a general average, they are a comparatively small and ill-formed race,—and even the very best of them never approach to anything like complete and perfect bodily symmetry, and we find that, taking all vegetable eating nations together, though many of them from their excessive use of narcotics, and from other bad habits, and unfavourable circumstances, are comparatively small and ill-formed, yet as a general average they are a larger and much better formed race than the flesh eaters; and it is only among those tribes and nations whose general habits are simple and temperate, and who subsist on a purely vegetable and water diet, that the most perfect specimens of human symmetry and beauty are found, and here they are very numerous, and deformity is very rare.

"It is unquestionably true that, if an individual be fed on flesh, with a regimen in all other respects correct, and if from infancy up to manhood he be carefully trained with reference to bodily development and symmetry and beauty, he will be much better formed than one who subsists wholly on vegetable food, but whose habits and circumstances are in most or all other respects unfavourable to the symmetrical development of his body. But all other things being equal, it is entirely certain that, as a permanent fact extending from generation to generation, pure, well chosen vegetable food will better sustain the human constitution in all its powers, and more healthfully and symmetrically develop the body, than a diet consisting of any portion of flesh meat."

The sixteenth lecture is devoted to an examination of the effects of vegetable and animal food on the human body, with reference to suppleness, activity agility, vigour, ability to endure protracted efforts, &c. The physiological views advanced in relation to this subject are illustrated by a large mass of interesting facts.

In the ensuing lecture, the comparative effects of vegetable and animal food in enabling the human system to resist the action of morbific causes, and to recover from disease, is very fully discussed. Some, if not all, of the author's opinions in relation to the dietetic treatment of disease are peculiarly striking and correct. The lecture concludes with an examination of the comparative effects of vegetable and animal food with reference to longevity, prolificness, and the ability to endure cold.

The subject of the eighteenth lecture is the comparative effects of vegetable and animal food on the sensorial power of the nervous system—particularly, on the special senses, and the intellectual and moral faculties. On this point the author has collected a large amount of facts.

In the nineteenth lecture, the comparative effects of animal and vegetable food on the animal propensities and moral sentiments are examined and illustrated. The author takes occasion under this head to discuss again certain points connected with the doctrines of phrenology—in order more especially to show that the opinions advanced by him in reference to the relative effects of animal and vegetable food are rather supported than disproved by the admission of all that phrenology claims. The reasoning of the author on this subject is ingenious, and deserving of some attention. We are persuaded, that had the lecturer studied the science of phrenology as it is now taught by those fully versed in it, he would have found occasion to modify very essentially some of the leading objections which he urges against it; he would, at least, have had no occasion to pen the following sentence,—

"Phrenology, admitting all that it contends for concerning the anatomy of the brain, *can only become* a true and complete science by embracing the whole human system with all its physiological propensities and powers, conditions and relations, and *then it will* become intellectual and moral physiology."

The author concludes his examination into the natural food of man with the following remarks:—

"The grand fact, that considerable numbers of the human family have long subsisted on a great variety of vegetable and animal substances, proves, not that man is created with a constitutional adaptation to all the vegetable and animal substances from which the human body has physiological power to elaborate any nourishment; nor that one man is created with a constitutional adaptation to one kind of aliment and another man to another kind; but that man is created with a constitutional capability of adapting himself to a great variety of aliment. So that, if necessity requires it, in case of shipwreck or any other emergency, he can sustain life for a while on almost any vegetable or animal substance in nature. Still, it is none the less true, that there are particular kinds of food, which, of all others, are most conducive to the highest and best condition of human nature, in every climate and in all circumstances; nor does man possess any such constitutional capabilities of adaptation, as will enable him to adapt any other kinds of food to the highest and best interest of his nature; nor to adapt himself to any other kinds of food, in such a manner as to secure the highest and best interests of his nature; but in all cases, he necessarily makes some sacrifice of those interests by every departure from those particular kinds of food to which man as a species is constitutionally adapted. He may, it is true, by the exercise of his intellectual and voluntary powers, artificially prepare many substances to which he is not constitutionally adapted, in such a manner as to render them more palatable and perhaps less pernicious to him, but he can never make them in the highest degree salutary to the physiological and psychological interests of his nature;—while the very artificial means which he employs in preparing these substances are, in all cases, to a greater or less extent, sources of evil to him; and though he may maintain life and health in this way for seventy or a hundred years, yet it by no means proves that his mode of living is most favourable to human health or longevity.

"Is it said that I make a distinction where there is no difference, when I speak of constitutional adaptation, and constitutional capability of adaptation? I reply that the difference is obvious and essential:—man is constitutionally adapted to water or the aqueous juices of fruits as a drink, and pure water is therefore in the highest degree favourable to the physiological and psychological interest of man, in all climates and in all circumstances, when drink is required: but he is not constitutionally adapted to ardent spirit as a drink, nor has he the capability of adapting ardent spirit as a drink to the physiological and psychological interests of his nature;—yet he has the constitutional capability of adapting himself to ardent spirit as a drink, but not in such a manner as to secure, in the highest degree, the physiological and psychological interests of his system; on the contrary, he does great injury to those interests by such an adaptation, and in all cases necessarily sacrifices those interests to a greater or less extent, by every departure from pure water as a drink. Nevertheless, extensive experience has fully demonstrated that man can so adapt himself to tea, coffee, cider, beer, wine, ardent spirit, and other kinds of alcoholic and narcotic beverages, as to be able to use them habitually, and yet to maintain a degree of health, in some rare instances, for fifty, sixty, seventy years, and more; yet he always does it to the injury of the physiological and psychological interest of his nature, and at the risk of his life, and knows not at what moment his habits may precipitate him to destruction. All this is true in regard to food;—and, therefore, the fact that man is capable of adapting himself to any particular kind of aliment, and of habitually subsisting on it, by no means proves that that kind of aliment is adapted to the highest and best condition of human nature; nor, even, that it is best adapted to the particular condition and circumstances in which he may individually be placed."

We can only indicate the leading subjects treated of in the twentieth lecture. The author endeavours to show that the experience in favour of a mixed diet does not militate against the physiological principles he has advanced; that health may be maintained at the expense of life, intensive and extensive life being incompatible; that health is not always a proof of good habits. He explains what is, in his opinion, best, on the whole, for civilized man in regard to flesh-meat—what, if people will eat flesh, is the best kind and manner. Some excellent observations in relation to the use of all the varieties of animal food are contained in this lecture.

In the next lecture we are presented with the general physiological laws in regard to preparing food, and the use of artificial means as aids to the vital powers; the general principles which should govern the artificial preparation of food, in relation to mastication, insalivation, deglutition, temperature, concentration, combination, quantity, &c., with the practical application of these principles; and very full and interesting details on the subject of bread—the best materials for its formation, the manner of preparing, baking, and preservation.

The subjects discussed in the remaining three lectures—are, the physiological principles in regard to times of eating; the physiology of hunger, the causes by which it is made to recur at shorter or longer intervals and is augmented and diminished in intensity; the importance of great regularity in the times of eating, the quantity of food necessary to sustain the human body, the effects of excessive alimentation; drinks, why required—the proper kind; thirst—natural and morbid. Stimulants—their effects on the system, and the general delusion concerning them. Sleep—the physiological necessity for it, its effects, causes which prevent and disturb it; the proper period for and duration of sleep. Bathing, air, clothing and exercise,—all these subjects are treated in a masterly manner. The remarks of the author in relation to them possess often much originality, and are, with very few exceptions, founded upon strict physiological principles. They are illustrated by numerous facts, and are capable throughout of a very important practical application, whether his views, as to the only proper food of man, and the injurious tendency of every species of condiment, even including salt, be or be not received as correct.

We have deviated somewhat from our usual practice in presenting so extended a notice of a work professedly addressed to the general reader; but from its very great superiority over the majority of popular treatises on the science of human life we felt desirous of directing to it the attention of our readers. We are not prepared to advocate all the physiological doctrines advanced by the author, nor are we convinced of the correctness, in every instance, of his hygiene; we nevertheless feel warranted in recommending the lectures to the professional reader, in consequence, as well of the importance of the subjects embraced in them, the orginality of thought by which they are distinguished, as of the very general accuracy of the author's views. To the unprofessional reader they will afford a fund of curious and useful information in relation to the organization of his frame, the vital laws by which it is governed, and the several causes which tend to derange the regularity of its functions, which he would find it difficult to obtain from any other source.

ON DRUNKENNESS AMONG THE MANUFACTURING CLASSES IN FRANCE.

A REPORT upon the physical and moral condition of the working classes in France was recently submitted to the attention of the Institute by M. Villermé, who has long devoted much of his time and attention to all subjects connected with the jurisprudence of medicine. The following extract on the pernicious influence of that most slavish of vices, drunkenness, will show how widely and banefully spread it is among the manufacturing population in that country.

"It would seem that high wages are seldom or ever any great boon to the workman; for the more they gain, the more they will spend; so that, at the close of the year, there is rarely any difference in the means or property of the best and of the worst-paid among them.

At the same time it deserves notice that, although they usually consume a large quantity of food when they can procure it, they know how in times of distress to bear the greatest privations. The worst privation to bear, at least to many of them, is the want of wine and other stimulating liquors. It is unfortunately too much the case that, just in proportion to the poverty and distress of the workmen, so is their desire for such intoxicating drinks—no doubt because these make them forget their misery for the time.

Among the working as among the other classes of the lower orders, drunkenness is almost exclusively found among the men; and with them, it has been remarked, that the pernicious practice is seldom acquired before their first illicit connexions with women. It is most common among those who are either exposed much to heat, or have severe muscular exertion during their occupations; and it is more common in the cold climate of the northern than in the warmer climate of the southern provinces. In Lille perhaps more than in any other town the vice is most frequent and most revolting.*

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* In the northern countries of Europe the spirit that is commonly used is obtained either from barley or from potatoes. The cheapness of the latter kind, and the great number of distilleries which prepare it, have contributed not a little to the increase of drunkenness.

The causes, which most contribute to engender and increase the disposition to drink intoxicating liquors, are—

1. The bad examples which the youth from their very infancy see before them.
2. The choice of apprenticeship to a trade in which many drunkards are employed.
3. The habits of debauch and disorderly life induced by frequenting clubs and other social meetings.
4. The complete idleness on Sundays and on other holidays.
5. The low price of brandy and other spirituous liquors, and the number of cafés and taverns everywhere.
6. The destitution of moral and religious feelings and practices.

The practice of drinking is unquestionably at first acquired by mere imitation, and by a silly desire to be able to do as others do; then a pleasant sensation takes the place of indifference or of even a positive disrelish, until at length an irresistible desire and increasing passion enslave the degraded victim. It is thus that, step by step, and often, alas! by a rapid transition, men pass from a decent sobriety to a most dreadful intemperance. When once the habit is acquired, everything becomes, so to speak, an occasion to visit the *cabaret.* When work is brisk and he receives good wages, he goes because he has plenty of money; when out of employment, he goes because he has nothing else to do; when happy, to enjoy himself; and when unhappy, to forget his distresses. It is at the *cabaret* that he incurs his debts, that he pays them when he can, that he concludes his bargains, and contracts his acquaintanceships; in short, everything is done at the *cabaret*, until the unhappy man is utterly ruined or is driven to destroy his own life.

When it has reached this pass, not only is all thrift, attention to children, and domestic happiness at an end, but the infatuated man and his family are brought to beggary and want; he is now idle, quarrelsome and discontented, fond of gambling and low play; he becomes degraded in his own estimation, and revengeful against others more fortunate or less vicious than himself; his health is impaired, and his feelings are brutalized; he associates with vice till he forgets that it is so; and at length he gives himself up to the perpetration of some crime which makes him an inmate of a jail.

It may be safely affirmed that drunkenness is the chief cause of almost all the disturbances and insurrections among our working classes, and of the greater number of crimes and offences against the laws.

The greatest blessing that could be conferred upon them would be, not to give them high wages, not to provide them with pleasures and entertainments, but simply to introduce habits of sobriety among them.

But how is this to be effected? Some will answer, by bringing the workman to make it a point of honour to himself to give up the practice, and by inducing him to become a member of a temperance society. The dissemination of books and pamphlets, whose object is to point out the numerous mischiefs arising from intoxication, the quarrels it gives rise to, the vices and crimes of which it is the parent, the ruin of health and strength and the debasement of mind which it occasions, should certainly be encouraged not only by the efforts of private charity, but by the direct interposition of all enlightened governments; while others suggest the necessity of restrictive duties upon all distilled spirituous liquors, and of severe police regulations against public-houses being open at late or very early hours. Good may be expected from adopting both of these plans—by appealing to the better feelings of the poor, and at the same time by discouraging and preventing, as far as possible, the sale of ardent spirits for drink by means of high fiscal duties.*

M. Villermé had consulted several of the old workmen, who had become masters themselves, as to the most advisable means to prevent and discourage the habits of drinking among the manufacturing classes. Their suggestion was, that, for the first offence, the offender should be reprimanded by a magistrate, or even be imprisoned for a few hours, or for a day at most; and that, if the offence were repeated within a given time, the name of the culprit should be published to the neighbourhood. They believed by thus appealing to the honourable feeling of young men, and at the same time by holding out the threat of public exposure, a great restraint might be imposed upon not a few, at least.

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* Every one residing in London—and we suppose it is, or will soon be, the same in all towns in England—must have been gratified by the change in the appearance of the streets on Sunday mornings, since the New Police Bill came into effect about three or four months ago. No public-house is allowed to be open between twelve o'clock on Saturday night, and one o'clock P.M. on Sundays.—(REV.)

To effect the cure of the wide-spread evil of intoxication, religion as well as municipal authority, the clergyman and the magistrate, the gentry and the master-manufacturers should all combine together in a spirit of active coöperation and unanimity. Much might certainly be done, if the *chefs de fabrique*—in other words, the proprietors of manufacturing establishments—were animated by a more philanthropic and christian spirit. Unfortunately, everything is sacrificed to the ambition of mere wealth.

There are however honourable exceptions occasionally to be met with; and they well deserve to be noticed. M. Villermé particularly mentions the praiseworthy conduct of the leading manufacturers at Sèdan, who by discouraging the keeping of holidays and of not working on Mondays, by retaining in their employ such workmen as fall sick, and treating them all with kindness, but at the same time with firm discipline, and by discharging any, never to receive them back, who are seen drunk, have contributed a great deal to improve the general character of the lower classes in the town.

We do not wish any one to imagine that we are opposed to the workman taking a single glass of wine, or beer, or of cider: we rather wish that every man could have a moderate allowance of any of these liquors at his meals; the evil is not so much in the act as in the abuse and excess of it. It is however to be remarked that, according to the reports of the American Temperance Societies, no progress will be made in eradicating the evil of drunkenness, but by inducing the members to abstain from spirituous liquors *altogether*, and not merely by limiting the use to a certain quantity, or by taking them in moderation. The extraordinary success which, we are told, has attended the exertions of some of these societies, cannot but delight every well-thinking mind.

It is a common—but, we believe, a mistaken notion—that it is easier for a person to moderate the quantity of an accustomed stimulus, than to forego its use altogether. Reformed drunkards seem to agree that such is not the case; the entire withdrawal is easier to bear than the limited allowance.

The position therefore of the American Temperance Societies is founded on just grounds—*that a complete abstinence from intoxicating liquors is the only certain remedy against intemperance.*

It would seem that hitherto temperance societies have made but little ground in France, and M. Villermé appears not to anticipate nearly so much good among his countrymen from them as from well-organized associations of the leading manufacturers for the purpose of encouraging and exacting habits of sobriety from the workmen in their employment. He adds; *I consider the religious spirit of the United States as a powerful element in the success of temperance societies, which does not exist in our population.—Annales d'Hygiene Publique.*

So far we have taken the version of this article from the *Med. Chir. Review.* On reference to the original we find, that M. Villermé does not believe in an increase of drunkenness in France of late years. In French Flanders, this vice was as common thirty years, and even a hundred and forty years ago, as it is at present. Our moderate reformers, who think it no intemperance to drink wine, and even recommend it as a substitute for ardent spirits, will be surprised to learn from M. Villermé that the silk weavers of Lyons have ceased to get drunk since they have substituted beer or wine as a drink between their meals. The English philanthropist, again, tells us, that beer drinking is pernicious; and we hence infer that the only fitting drink, after all, for health, for comfort, and for wisdom, is water.

(From the Lancet.)

HANWELL LUNATIC ASYLUM.

As there is no disease more distressing than madness, there is no subject more important than the treatment of the insane in Asylums. We have frequently called attention to the abuses of management in those abodes, as well as to the safeguards which are required in them to protect the public from extortion, and the patients from neglect or cruelty; at present we merely wish to notice a few facts contained in "*The Fifty-first Report of the Visiting Justices of the County Lunatic Asylum, at Hanwell*, and in the "*Report of the Resident Physician.*"

The Report extends to three-quarters of a year, and ends on the 30th September, 1839. The asylum contained 321 males, and 470 females, on the 1st of January, and 329 males, and 462 females, on the 30th of September. The average number of patients in the asylum was 804. In the 9 months 84 males, and 48 females, were *admitted;* 38 males, and 27 females, were *cured;* 3 males, and 5 females, were discharged, *relieved;* and 35 males, and 24 females, *died.* It will be evident, from this statement, that the Hanwell Lunatic Asylum is one of the largest establishments of the kind in Great Britain; and that considerable interest attaches to it both in an economical and a scientific point of view.

Much has been said of the expense of the County Asylums under the care of the Visiting Justices. The Accounts of the Hanwell Asylum are now published, in a clear, intelligible form. It appears from them that the income was £12,486; the expenditure, in 9 months, £11,344 17s., of which latter sum £6,045 16s. were for provisions; £1,839 12s. for house expenses, including coals, soap, bedding, &c.; £255 for medicine (£133 12s. for drugs and instruments); £728 for clothing; £1,465 for salaries; £926 for wages; and £85 for incidental expenses. The cost of each patient was, on an average, 7s. 3d. a week; 3s. 10d. having been expended for provision, including 1s. 1½d for meat; and 1s. 3d. for flour.

We are glad to perceive, from the Report of the Resident Physician, that the diet has been improved. The amount of solid food has been increased. The nature of the change will be seen in the subjoined statement of the amounts of solid and fluid food in the old diet table and the new.

Weekly Proportion of Solid and Fluid Food.

Old Diet Table, solid food per week, 160 ounces; fluid, 20½ pints.
New Diet Table, solid food per week (men), 194 ounces: fluid, 16 pints.
Ditto, ditto, (women), solid, 172 ounces, fluid, 19½ pints.

Of the 34 ounces of increase in the solid portion of the mens' diet, 8½ consist of cooked meat, 6 of bread, and 14 of cheese. The substitution, for gruel, of a tea breakfast for the women, and a supper of bread, cheese, and beer for the men, is said to have given much satisfaction.

All this may, in the detail, seem very dry and dull to some persons; but nothing can be considered to be uninteresting that relates to the relief of many thousands of our afflicted fellow creatures; and their comforts and prospects of recovery will be found to depend intimately on details of a very vulgar description. Let the refined cavillers who now "dwell at home at ease," reflect that they may live to see the day when the addition of 8½ ounces of cooked meat, the introduction of tea and the banishment of water-gruel in an establishment, will form an epoch in their existence.

It appears to be pretty well established, that fewer persons die, and that recovery is more rapid in institutions where the patients enjoy a nutritious diet, than where they are kept at the starving point. The water-gruel slop frequently gives rise to diarrhœa; and it appears impossible to preserve the inmates of *one large establishment* in health, on a diet which sustains the life and strength of the agricultural peasantry living in detached cottages.

Every medical practitioner must agree in the sentiments expressed by Dr. Conolly, in the following paragraph:—

"The general appearance of the patients at Hanwell, the striking improvement which takes place in many of them in a month or two after admission, and the entire absence of epidemic sickness during the autumnal quarter, in which those disorders of the stomach and bowels are most prevalent to which lunatics have been considered particularly liable, may perhaps be looked upon as so many indications that the present diet and regimen are conducive to the general health and comfort of the patients. By the same means, it is hoped, that they may be guarded from many forms of illness, arising from the lowered condition of the circulation and other functions which seem to belong to every variety of insanity, and preserved from many bodily irritations and some mental dissatisfaction unfavourable to recovery. These considerations cannot be lost sight of in a lunatic asylum, and especially in the regulation of the food of the patients. A lunatic asylum is an infirmary, of many of the inmates of which the hope of recovery is never abandoned; whilst all are visited with severe affliction, of which their becoming dependent on pauper allowance is only one of the consequences. Their claim upon society is consequently different from that of the ordinary description of paupers." p. 34.

The character of the cases in the Hanwell Asylum is seen in the following classification:—Of 805 cases examined in the autumnal quarter, 148 were cases of mania, 50 of melancholia, 4 of monomania, 4 of hypochondriasis, 277 of incoherency, 171 of imbecility, 137 of dementia, 14 of idiotcy. Of the 805 cases, 108 were complicated with epilepsy; 48 in 469 females; 60 in 335 males. This complication is more common in males than in females, having occurred in the proportion of 18 per cent. of the males, and 12 per cent. of the females.

It has been shown, that in private asylums the principle of assurance might be advantageously applied, and that this would tend to secure the safest and the most efficient treatment. The proprietors may assure the lives of the patients, and a premium on recovery may be calculated on equitable principles, if the data, which the public asylums would furnish, were collected, and properly digested in tabular forms. Dr. Conolly's Report contains several valuable contributions to the statistics of insanity; and the registers which he has established, if carried on with perseverance and accuracy, will furnish data for these calculations, as well as for determining the laws which regulate the progress of the disease, and the influence of different modes of treatment.

The first return shows the number admitted in every year since 1831; and the numbers that *died*, were *relieved*, or were *cured*, year by year, down to 1839. This return is excellently conceived; but were none *discharged* that were neither relieved nor cured? 1,846 were admitted, 381 were cured, 57 relieved, 587 died, and 791 remained in the Asylum.

The duration of the disorder was ascertained, or assigned, in 780 cases; 28 were of less than a year, 327 of less than 6 years, 432 of less than 7 years' duration. Of the causes assigned, in 281 cases 37 were intemperance, epilepsy 28, blows on the head 14 (!) effects of lightning 2. Other tables show the numbers of married, single, widows, and widowers; the occupation, the religion, and the education of the patients. The degree of education was ascertained in 494 cases; 18 were well educated, 263 could read and write, 178 could read, and 35 could not read. Hence it would appear that 43 per cent. could not write; and this is nearly the proportion in the entire population that cannot write their names. The lunatics appear, however, to have been better educated on the whole than ordinary paupers.

We have dwelt upon these returns, in the hope that a uniform system of registration may be adopted in all the County Lunatic Asylums.

The most important article in the report is that, perhaps, which relates to the great reduction of personal coercion in the Asylum. No patient has been put in restraint in the Lincoln Lunatic Asylum for nearly 3 years! The number of patients in that asylum, in the year 1830, was 92; 54 were restrained; the total number of instances of restraint, was 2,364; and the total number of hours passed under restraint amounted to 27,114! In 1838 the total number of patients in the house was 158; not one was restrained for a single hour! The change has been attended with the happiest consequences.

The system has been tried in the Hanwell Asylum; and the principle is of such incalculable importance, that we shall extract Dr. CONOLLY's description of the experiment:—

"By a list of restraints appended to this report, it will be seen that the daily number in restraint was in July so reduced that there were sometimes only four, and never more than fourteen, in restraint at one time; but that since the middle of August there has not been one patient in restraint on the female side of the house, and since the 21st of September not one on either side.

"There have, however, been occasional and brief instances of restraint, unsanctioned, in some cases, by the physician, and which do not appear in this Table; but it correctly represents the total absence of continued restraint during the whole period since August 9th. For patients who take off or destroy their clothes, strong dresses are provided, secured round the waist by a leathern belt, fastened by a small lock. For some who destroy the collar and cuffs of their dresses with their teeth, a leather binding to those parts of the dress is found convenient. Varied contrivances are adopted, with variable results, for keeping clothing on those who would otherwise expose themselves to cold at night; and warm boots, fastened round the ankles by a small lock instead of a button or buckle, are sometimes a means of protecting the feet of those who will not lie down. As it is now and then necessary to confine the hands when a blister is applied, to prevent its removal; and as this, like all other temporary restraints applied with the justifiable plea of protection, is generally abused by being too much prolonged, or unnecessarily severe, a kind of cape, as a covering for a blister, capable of being secured over it, has been thought of, and will no doubt be found practicable. Those who are in the habit of striking suddenly, tearing the bed-clothes, &c., sometimes wear a dress of which the sleeves terminate in a stuffed glove without divisions for the thumb and fingers. But no form of strait-waistcoat, no hand-straps, no leg-locks, nor any contrivance confining the trunk or limbs, or any of the muscles, is now in use. The coercion chairs, about forty in number, have been altogether removed from the wards; no chair of this kind has been used for the purpose of restraint since the middle of August.

It may be considered yet too early to pronounce a positive opinion on the general effects of these measures. In so large an Asylum, filled with pauper lunatics, the means of mere mental control must always be limited, and the discontinuance of cruel restraints may only slowly be appreciated by the patients. But the Resident Physician is inclined to believe, after as careful observation at all hours as the space of a few months has permitted, and notwithstanding some peculiar difficulties, that the noise and disorder prevalent in some of the wards has already undergone diminution; that instances of frantic behaviour and ferocity are becoming less frequent; that the paroxysms of mania to which many of the patients are subject, are passed over with less outrage and difficulty: and that, if cases are yet seen which appear for a length of time to baffle all tranquilizing treatment, they chiefly, if not exclusively, occur in acute mania, the symptoms of which would be exasperated by severe coercion, or among those who, having been insane many years, have been repeatedly subjected to every variety of violent restraint.

"With respect to the discontinuance of the restraint-chairs, he may speak more confidently. Several patients formerly consigned to them, silent and stupid, and sinking into fatuity, may now be seen cheerfully moving about the wards or airing-courts; and there can be no question that they have been happily set free from a thraldom of which one constant and lamentable consequence was the acquisition of uncleanly habits." p. 48.

The old, brutal system of the mad doctors, beginning with coercion and cruelty, and ending with cruelty and coercion, enabled them to manage their establishments at less expense than is required by the milder and more efficient system which is now carried into successful operation. The Middlesex Magistrates have fallen into Dr. CONOLLY's views, and have employed *nine* additional keepers, to substitute "vigilant superintendence for personal restraint." We recommend the view which they take of the duties of nurses, to the Governors of Hospitals:—

"The duties of a nurse or of a keeper, if well and conscientiously discharged, are harassing and laborious, and require qualities of no ordinary kind, and yet their salaries have been hitherto, for the most part, below those usually given to common domestic servants. The consequences have been such as might be expected; keepers and nurses have been engaged, not from choice, but from necessity, who, if in course of time they became fitted for the office, as they had not a sufficient inducement to remain, have left the Asylum for situations less irksome, or where they have been better paid. The plan adopted by your committee is calculated to invite a superior description of persons, and to retain them in the service of the Asylum; persons of character and intelligence, and of well regulated minds, who are not likely to abuse the authority with which they are invested; an authority, which, if not controlled by right piinciples, they have, unfortunately, but too many opportunities and inducements to abuse."

We have but one recommendation to add, and that is, that the Asylum be rendered accessible to medical students under liberal regulations. It is of the highest importance to the community that the nature of insanity should be well understood. The certificates of two medical practitioners will consign the father of a family to confinement in a lunatic asylum; yet insanity is excluded from the wards of clinical observation, the student is shut out of the lunatic asylum, and, during the period of his studies, has absolutely no opportunity of making himself acquainted with this most important and formidable disease. A certain number of the wards may be visited, without any inconvenience. The Middlesex Asylum should be useful to all classes of society, under regulations which would be advantageous, rather than injurious, to the afflicted inmates.

PECULIAR FORM OF ACUTE ANASARCA.

To the Editor of the LANCET:

SIR:—Should you deem the following remarks on dropsy of sufficient importance, their insertion in your valuable Journal would oblige your obedient servant,

EDWARD HOCKEN.

15, Featherstone-buildings, Jan. 15th, 1840.

There is a peculiar form of acute or inflammatory anasarca which commences and progresses with the usual symptoms of synocha, or inflammatory fever; it is ushered in usually by a severe rigor, succeeded by heat of surface, but a tendency to chilliness, in irregular paroxysms; thirst, a rapid, full, *hard*, pulse; coated tongue; disturbed digestion; pale, copious, and albuminous urine; more or less pain or uneasiness in the situation of the kidneys; with a rapid development of the dropsical symptoms. In the cases that I have myself seen of this kind, they were caused by the prolonged action of cold and damp. The more vigorous patients recovered rapidly under strict antiphlogistic remedies and regimen, whilst some, who were previously the victims of intemperance and improper diet, after various treatment, fell victims to the disease, post-mortem examination showing the granular or Bright's disease of the kidney as the principal pathological change. In those who recovered the urine remained albuminous, till various periods of convalescence, but the albumen eventually disappeared entirely. The following is a well-developed case of this kind:—

A labouring man, of about fifty years of age, robust, and usually enjoying good health, worked as a carpenter, for several days in succession, in an exceedingly damp and cold situation, early in the spring. After having been engaged in the situation mentioned for about a week, he began to complain of indisposition, his feet swelled towards night, and he had a severe rigor, followed by headache, pain in the back, hot skin, thirst, and great languor, and listlessness.

On seeing him the next morning there was pretty general anasarca, which he stated had come on principally since the rigor on the preceding evening; pain and slight tenderness in the lumbar region; pale and thin urine, which was alkaline, but coagulated abundantly at the boiling temperature; heat and pain in the head; the bowels confined, and the secretions vitiated; loss of appetite; thirst and dryness of the mouth; a dry, harsh skin, which felt hot, although the patient complained of occasional fits of chilliness; the pulse full, frequent, and very hard. He was bled to twenty ounces from the arm, which induced the symptoms of incipient syncope; the bowels cleared out fully by a full dose of calomel and jalap, and to take an ounce, every four hours, of a mixture containing ten minims of the tincture of digitalis, ten grains of the nit. of potass, and a small quantity of the pot. tart. of antim.; whilst at night he was to continue the powders of equal parts of jalap, senna, and bitartrate of potassa, ℈ij, with two grains of calomel. By the continuance of these remedial measures for a few days, the acutely febrile symptoms were much relieved; the pulse lost its hardness and frequency; the skin became cooler, but remained still harsh and dry; the urine more abundant, and less coagulable by heat; but the dropsical effusion rather increased than diminished, the patient, nevertheless, declaring himself to be much better; the thirst considerable; free evacuations from the bowels, which were now duly coloured with healthy bile. To continue the powders at night, with the omission of the calomel, and to take the digitalis, in conjunction with the tincture of squills and the nitrate of potassa, every four hours. He being a poor man, and unable to obtain a warm bath, warm sponging was directed to the surface.

During the continuance of this case the treatment was occasionally varied, and from the continuance of pain in the back, local abstraction of blood was had recourse to, with very beneficial results; but in about a fortnight the skin had resumed its healthy feel, the digestive organs acted efficiently, appetite returned, and the anasarca diminished rapidly, the urine still remaining albuminous.

He subsequently regained his health and strength by tonics and diuretics, the anasarca completely disappeared, and the urine gradually, but entirely, lost all traces of albuminous commixture.

A fatal case occurred in a vagrant of abandoned and dissolute habits, addicted to the habitual use of spirits in intoxicating quantities. He was a tall, full, but sickly-looking man, of about thirty years of age. He was brought into the Exeter workhouse with severe febrile symptoms, after sleeping all night under a hedge, anasarca, and, eventually, general dropsy, speedily developing themselves, with severe pain in the region of the kidneys, albuminous urine, and deranged hepatic secretion.

He was actively treated antiphlogistically, placed in the upright position, bled to incipient syncope, and well purged, and had antiphologistic diuretics in conjunction, administered frequently. At a subsequent period stimulants were added, from the supervention of symptoms of commencing exhaustion and delirium tremens, from which he experienced slight but transient benefit, as also from punctures with a cataract needle, which the amazing distension of the lower limbs and genital organs demanded.

After similar treatment, continued for about a month, symptoms of arachnitis supervened; he complained much of headache, and soon became insensible and comatose, in which condition he died on the following morning.

Putrefaction took place so rapidly, that no post-mortem examination could be made on the following day, circumstances preventing such as examination on the same day of his death; but there is little doubt that the effusion into the arachnoid was the immediate cause of death, and that the kidneys had undergone great, if not irremediable, organic changes. The pain in the lumbar region, and the albuminous condition of the urine, continued until the fatal termination.

In some other fatal cases of febrile anasarca where the symptoms nearly resembled the case just mentioned, these remarks were verified by post-mortem examinations.

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CONCEPTION AFTER CESSATION OF THE MENSES.

To the Editor of The Lancet :—

Sir :—The subjoined case may be interesting in a medico-legal point of view and tend in some measure to subvert the generally received opinion, that conception will not take place after the cessation of the catamenia.

Mrs. W., a healthy woman, aged 44, had, previous to her present pregnancy, given birth to nine children at intervals of from eighteen months to two years. She was confined with her ninth child in September, 1836. The secretion of milk had always before been plentiful, but on this occasion it was much diminished in quantity, and, in fact, the child weaned itself before it was twelve months old, owing to the paucity of the secretion. Mrs. W. afterwards had a *slight* return of the catamenia at the regular periods, up to July, 1838, when they entirely ceased. Under these circumstances it was natural to infer that conception could not afterwards take place, but in this conclusion my patient has been deceived, as she was this morning delivered of a healthy boy, her tenth child. Her other children are all living. In this case conception must have taken place at least seven months after what I should have considered to be the final cessation of the menses. I am, sir, your obedient servant,

John Pearson.

Staleybridge, *Dec.* 31, 1839.

WESTMINSTER MEDICAL SOCIETY.

Dr. Chowne, President.

MISTAKES.—CASES OF DISCOLORATION OF THE GUMS FROM LEAD.—"SPONTANEOUS SALIVATION."

Dr. Reid said that, as the Society was founded, among other things, for the purpose of its members relating curious cases, he would detail the following:—A few evenings ago a portion of a body was found in a court in Drury-lane, and, after being pronounced human by some medical man to whom it was taken, it was brought, amid much popular excitement, to St. Giles's workhouse, when the pathological specimen was found to be the throax of a dog. Some years since, in this parish, a Coroner's jury had been summoned to sit upon the body of a new-born child, found in a privy, when the deceased was discovered, on examination, to be the body of a cat denuded of its skin !

Mr. Gregory Smith, in allusion to the paper of Dr. Burton, read before the Medico-Chirurgical Society, at its last meeting, stated that he had, since the paper was read, been enabled to verify the correctness of the views advanced by the author of the paper in question, in two cases. In one case, the patient was under the care of Dr. Thomson, of the Marylebone Infirmary, for hæmoptysis, for which he had taken the diacetate of lead for about a week, the peculiar appearance of the gums, as noticed by Dr. Burton, was very evident. In the second case, the man was a colour-grinder, and had suffered under painters' colic and wrist drop ; the latter affection still continuing, the gums were discoloured as in the other case.

Dr. Golding Bird had noticed a peculiar state of the gums in women who worked among the shot-factories on the banks of the Thames. He had, some time since, seen three women, shot-washers, as they were called, who had applied at Guy's Hospital for other diseases than that which he was about to notice. On examining their gums he found them quite black and spongy, the breath having a fœtid odour, like that produced by salivation from mercury. No mercury had been used in these cases.*

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* This state of the gums will be found to be very different from that mentioned by Dr. Burton, in which there was no sponginess, and no fœtor.—*Rep. Lancet.*

Dr. ADDISON had no doubt that the peculiar state of the gums described by Dr. Burton, would exist in many cases of lead colic and paralysis, but there would be some cases of these diseases in which that symptom would not occur. There were, again, many cases in which lead had not entered into the system at all, where the gums would, nevertheless, be affected in the way alluded to. This would be found to be the case in cachectic constitution.

Mr. SNOW had lately seen one of the severest cases of salivation it was ever his lot to witness, having its origin from lead. The patient was a common house-painter, and had not taken medicine for years; he did not use mercury in his colours. In this case the gums were ulcerated, and there was mercurial odour in a high degree.

Dr. ADDISON had no doubt but that the case of Mr. Snow was one of "spontaneous salivation," instances of which, he believed, were not uncommon in London. He had first noticed it some years since in a patient he had attended, and who had not taken a grain of mercury. The salivation in this case could not be accounted for; it was very profuse. He had, since then, seen several such cases, two of which occurred in the practice of the late Mr. Whitmore. Sometimes in these cases there was fœtor, sometimes not.

Dr. BIRD had seen several such cases, in all of which the mercurial fœtor was strong. It generally occurred in cases of cynanche and tonsillitis.

Dr. JOHNSON remarked that, in cynanche, the fœtor of the breath, and the salivation, were very often difficult to distinguish from those which had their origin in the use of mercury, and they were very liable to be confounded together.

Dr. ADDISON said that, in the cases he had alluded to, there was no difficulty in swallowing, no cynanche, no tonsillitis, but simply redness of the mouth.—*Lancet.*

EXPERIMENTAL RESEARCHES OF THE OXIDES OF IRON AS ANTIDOTES OF ARSENIC.

WE, early, in this Journal introduced notices of experiments to show the value of the hydrated peroxyde of iron, in a moist state, as an antidote to arsenic, as first recommended by M. Bunsen, a German chemist. We take the following additional particulars from the Medico-Chirurgical Review for January last.

The value of the remedy has been confirmed by several other experimenters; and as the compound formed by the union of the two metallic salts is quite insoluble and inert, there is every reason to believe that, if a complete union could take place in the stomach when the poison has been swallowed and before it has produced its deleterious effects, many a life might be saved. As far as we know, there is only one case on record where the peroxyde has been used in the human subject; and in that case it was used with success. It is reported in the *Revue Medicale*, and an account of it was given in one of our recent numbers. The only objection that has been made against the moist peroxyde is the tediousness of preparing it, its inconvenient bulk, and the difficulty of keeping it for a length of time.* A committee was recently appointed by the Society of Medicine to examine the subject in all its details, and to endeavour to discover a substitute for the moist peroxyde recommended by M. Bunsen.

The report of this committee has been published, and we shall extract one or two of its most important paragraphs.

After a few prefatory remarks, it is stated, "we do not hesitate to assert that the arsenious acid is *victorieusement combattu*, not only by the moist peroxyde of iron proposed by M. Bunsen, but still more effectually and more easily at the same time by the dry hydrated peroxyde—the subcarbonate of iron of the chemists.

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* The mode of preparing it is by peroxydising a solution of sulphate of iron by the means of nitric acid with the aid of heat, and then adding pure liquor ammoniæ: the supernatant liquor is to be drawn off the flocculent precipitated peroxyde; and fresh water must be poured on it and decanted off several successive times. The process requires, according to M. Guibourt, four or five hours.

This is readily prepared by precipitating the proto-sulphate of the metal by carbonate of potash and washing the precipitate repeatedly. By exposing it freely to the air during desiccation it becomes completely oxydated, loses its carbonic acid, and is then in short a dry hydrated peroxyde;—100 drachms of this precipitate, when calcined, yield 69 drachms of an anhydrous peroxyde.

The reporters acknowledge that the wet preparation recommended by M. Bunsen has in many experiments fully answered the promises held out by that chemist, provided it be administered in sufficiently large doses. But, as we have already said, the objection to this preparation is the length of time required to make it, and its most inconvenient bulk. If therefore the dry peroxyde will answer as well, it must be, considering the facility with which it may be obtained, altogether preferable. Now in numerous experiments performed by the reporters, its antidotal efficacy was very remarkable when the dose of the poison had not exceeded four or six grains.

The first thing to be done is to encourage vomiting as freely as possible. But in doing this, the patient should be made to drink copiously of milk or of oil, and not of water, to prevent the further solution of the poison. Whenever the vomiting is carried as far as is deemed advisable, a quantity of lukewarm water, in which several ounces of the dry peroxyde of iron are suspended, should be administered. If it is rejected by vomiting, so much the better; we have only to repeat the dose immediately.

The Committee suggest that half an ounce of the dry peroxyde should be given for every grain of the arsenic that may be in the stomach.

For the particulars of the experiments, chemical and physiological* (on dogs), for the purpose of determining the effects of the peroxyde in neutralising arsenious acid, we must refer our readers to the numbers for May and June, 1839, of the—*Revue Medicale.*

ON THE DETECTION OF ARSENIC IN THE BLOOD, FLESH, AND VISCERA, AFTER DEATH FROM POISONING.

M. Orfila has, for the last two years, been engaged in a series of experiments to determine whether the presence of arsenic can be detected in the blood and the solid parts of the body after death in cases of fatal poisoning. During last year, he submitted to the attention of the Royal Academy of Medicine a chemical process—which consisted in treating the parts subjected successively with nitrate of potass, sulphuric acid, and with potassa and alcohol—for this purpose. It is however very tedious and also uncertain; and he has therefore substituted another, which he deems to be a great improvement: it is the following:—

Take the liver, spleen, lungs, or a certain quantity of the blood of the animal that has been poisoned with arsenic, and dry them thoroughly. The dried mass is then to be treated in the heat with concentrated and purified nitric acid; in the course of a quarter of an hour or so the whole mass will be dissolved.—The liquor is concentrated; a dark point appears, and soon the carbonisation is complete. It is then to be treated with cold water. The solution is introduced into Marsh's apparatus and submitted to the hydrogen test.

In performing the experiments, we must carefully be upon our guard not to raise the temperature of the mixture too high, and also not to use too large a proportion of nitric acid. If more than sufficient be used, the flame is too vehement; and almost all the arsenic will be destroyed. Again, if the heat applied be not sufficient, the carbonisation is not complete, and a disagreeable pyrogenous odour, similar to that of burnt horn, is emitted. Several hours are required for the experiment; and sometimes, even with the greatest care and dexterity in performing it, a portion of the arsenic is lost.

The following are the proportions of nitric acid recommended by M. Orfila, to be used with the different parts of the body submitted to the experiment. For three ounces of dried blood, seven ounces of the acid are required ; for one ounce of dried gelatin, one ounce of acid ; for three ounces of the residue obtained by decoction of the limbs, nine ounces of acid ; for six ounces of dried cerebral matter, four ounces of acid ; and for all adipose matters, a very large proportional quantity of the acid is necessary. Twelve ounces of dried liver require thirty-four ounces of acid ; whereas twenty-two ounces of muscle require only sixteen ounces.

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* It is mentioned in the report that *small doses of arsenic*, say four or six grains, *proved more quickly fatal than larger ones*, as from 12 to 40 grains. The absorption seems to go on more rapidly when the dose is small.

By following the proportions now given, and provided at the same time care has been used in effectually drying the substances submitted to experiment, *ou est sur de reussir presque constamment.* We may not indeed succeed in recovering all the poison, but much less will be lost in this than in any other way.

M. Orfila gave the particulars of the following instances, in which he had successfully practised the method now described.

1. In a dog, which died after having swallowed 12 grains of arsenic, all the organs were submitted to the experiment ; and in every one of them traces of the metal were discovered.

2. The liquid obtained from the decoction of the limbs of Soufflard, although previously treated with sulphuric acid, gave the same results.

3. Very recently in the case of a man of the name of Lorrain, who died after having taken a large dose of arsenic, a part of his limbs being treated with nitric acid and carbonised, and then submitted to the proper tests, furnished the well known signs of its presence.

4. The same was the case in the liver taken from the body of the man Mercier.

5. Lastly, in a woman who poisoned herself a month or two ago, equally satisfactory results were obtained by experimenting on ten ounces of blood which had been taken from the arm. This patient recovered.—*Memoires de l'Academie.*

If the expectations of M. Orfila be confirmed by the researches of other physicians, the science of toxicology will have achieved a most important discovery. It is well known that if a person, to whom a poison has been given, survives for several days, perhaps no chemical traces whatever of its presence in the stomach or intestines will then be detected on dissection, although the death has been indisputably owing to its effects. The poison has in fact been absorbed and taken into the circulation. That such is the case with arsenic, if the quantity taken has not been excessive, cannot now be questioned for a moment; as M. Orfila has succeeded in detecting it not only in the blood, but in almost every one of the solid textures of the body, when all traces of its presence in the intestines had disappeared. The following illustrative case will be read with interest:—

On the 22d of December, 1838, a man died at ———, with all the symptoms of being poisoned. He was however buried, without any examination having taken place.

A fortnight afterwards, the body was disinterred, and submitted to anatomical inspection. The intestines exhibited all the usual lesions characteristic of poisoning by arsenic. Their contents were examined with great care by some experimental chemists; but no traces of arsenic could be detected : the body was again buried. Fresh suspicions however having arisen about three or four months later, M. Orfila was then consulted. The body was again taken up and sent to Paris for the purpose of being examined by him. It was in a state of complete decomposition at the time: the stomach and intestines no longer exhibited any traces of their original structure, and all the other parts were more or less disorganised. Notwithstanding the circumstance of the body having been twice exhumed, and submitted to all the mangling of a *post-mortem* examination, not to mention its decomposed state from putrefaction, M. Orfila succeeded in detecting the presence of arsenic in the liver and in the limbs, as well as in the water of the barrel in which the rest of the body was kept.

We may also mention that he has obtained unequivocal traces of this metal in the blood, which had been taken from the arm of a patient to whom this poison had been given. It is therefore of great consequence to withdraw a certain portion of blood from the arm in all cases of suspected poisoning.

We must not however forget that, according to some recent analyses of animal bodies, it would seem that there is a minute quantity of an arseniate of lime in the bones, and perhaps also in some of the other textures, in the healthy state. M. Orfila admits the truth of this statement himself, but he has pointed out at the same time how the fact does not affect the results of medico-legal inquiries. His experiments clearly show that the natural arsenical compound is not soluble is boiling distilled water (kept constantly neutralized by an alkali) ; whereas, on the contrary, the poison, absorbed into the circulation and disseminated through the organs of the body, is readily extracted by boiling for some hours in water.

We need scarcely say that it is of the utmost importance that the chemist should be most careful as to the purity of all his vessels, whether metallic or earthenware, and of all the chemical tests and agents which he uses, in any medico-legal examination, to detect the presence of arsenic in animal bodies. A minute portion of the metal has, for example, been occasionally found in the sulphuric and nitric acids of commerce; also in vessels of iron and tin : and, lastly, in the composition of certain soils.—*Gazette Medicale.*

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

March, 1840.

The President, Dr. Gerhard, in the Chair.

Case of Dr. Parrish, Reported by George B. Wood, M.D., *Professor of Materia Medica in the University of Pennsylvania.*

The following account of the case of the late Dr. Joseph Parrish is drawn up from memory, no notes having been taken during its progress.

When about twenty-five years of age, the Doctor was affected with a severe and lasting cough, and considered himself in danger of pulmonary consumption, to which he believed he had a family predisposition, having lost a brother and sister by that complaint. Under a course, however, of vigorous exercise and free exposure to the air, without the use of medicines, he ultimately surmounted the threatening symptoms. The existence of cicatrices in the upper portions of the lungs, discovered upon post mortem examination, proves that his apprehensions were well founded, and at the same time affords strong evidence in favour of the plan of treatment which he adopted in his own case, and always strenuously advocated.

For many years after the disappearance of the pectoral affection, Dr. Parrish suffered much from dyspepsia, which continued with him even till middle life. But from this also he was at length relieved, and afterwards enjoyed good health, with the exception of occasional severe attacks of catarrh during the winter, and of irregular gouty or rheumatic affections, particularly of lumbago, which usually continued but for a short period. In one of these attacks, however, of irregular gout, which occurred about eleven years previously to his last illness, he was confined to his bed a long time, and suffered extremely. The disease appeared to affect chiefly his stomach, diaphragm, intercostal muscles, and upper extremities ; and he was at one time considered in imminent danger. He had a slow convalescence, but recovered entirely, without any apparent relics of the disease, which could give rise to uneasiness. His predisposition to gout was thought to be hereditary.

It may be proper to mention, in reference to the state of the kidneys and prostate glands, revealed by dissection, that he laboured, during the greater part of his life, under more or less irritation of the urinary passages, and that the secretion of urine was more copious than is usual in health. He believed that in early life he had suffered from a slight attack of diabetes.

These preliminary facts are stated, as they may throw some light upon the character of the affection of which he died, and upon the phenomena observed after death.

The health of Dr. Parrish began to decline in the early part of last summer. He lost flesh, and felt uncomfortable, without being able to ascribe his condition to any particular cause. In August, 1839, he visited Saratoga, with the view of improving his health, and while absent from home, was attacked with a severe neuralgic affection of his lower extremities. This was so far relieved by opiates as to enable him to return to Philadelphia, but did not entirely disappear for several weeks. The chief seat of the affection was in the calf of the left leg. The pain was excruciating, but without heat, redness, or swelling of the part. It yielded to very copious local depletion, by means of leeches.

After this attack he never recovered his former health. His appetite was impaired, his bowels often costive, his sleep disturbed and not refreshing; and, though he continued to attend to his professional duties, he exhibited less energy than formerly, and in the afternoons was indisposed to exertion, sleeping much in his chair, and often waking up in a debilitating perspiration. Soon after the commencement of winter, he was seized with catarrh, which gradually increased, and at length became so severe as to render confinement prudent if not necessary. It was not, however, till about the first of January that he concluded to remain at home and try the effect of remedies.

He was now much more emaciated, had a pulse of about one hundred, and apprehended phthisis; and it was the conviction that he was predisposed to this complaint which had induced him to delay confinement. But the existing pectoral symptoms were obviously those of bronchial inflammation, and yielded very considerably to a slight mercurial impression produced by the blue pill. The general amelioration of his condition, under the influence of mercury, was indeed very striking. Expectoration, which was before deficient, became established, the cough was diminished in violence, and the pulse sunk down to the natural standard. He was so much improved as to be able to leave his house occasionally, and even to visit patients, when the weather was favourable. But he was still far from being well. The emaciation continued, and the cough, though moderated, did not altogether leave him, but took on a laryngeal character, as if the irritation which produced it was seated chiefly in the glottis. The pulse again became more frequent than natural, and he began to have a sallow hue, though the alvine evacuations and the urine were little, if at all, changed in colour. Petechiæ made their appearance pretty thickly upon the lower extremities, but were not permanent. Though the appetite was somewhat impaired, enough food was taken for healthy nutrition, had not some latent cause existed to disturb the process.

After exposure out of doors, and fatiguing professional exertion, on the 29th of February he became so much worse as to be confined to his room, which he did not afterwards leave. His cough was now almost exclusively laryngeal, and occurred paroxysmally towards the close of the day, when it became exceedingly violent, and continued almost incessantly for hours. The sensation in his throat was such that he could scarcely convince himself that there was not a foreign body in the larynx. The slightest attempt to speak brought on violent convulsive attacks of coughing, which were attended with shooting pain in the throat, and not unfrequently also with vomiting, consequent, probably, upon the agitation of the parts about the fauces. The stomach was at length thrown into a state of sympathetic irritation, which continued even during the absence of the cough, so that scarcely anything swallowed could be retained. The pulse was now usually between ninety and one hundred, soft and moderately full; the skin soft and of a natural temperature; the tongue slightly furred and disposed to dryness; the secretion from the kidneys and liver very nearly healthy in appearance, though the evacuations from the bowels were sometimes rather too light coloured, and the urine rather too yellow. The sallowness and emaciation had somewhat increased, and a slight disposition to lethargy was observable, which appeared to have existed for some time previously, though it had not attracted particular attention. There was no unusual irritation of the urinary passages; no pain in the small of the back, nor in the right side or shoulder; no difficulty in lying in any position; very little, if any, tenderness in the right hypochondrium; in short, none of the usual evidences of inflammation of the kidneys or liver, though the lethargic symptoms, and the somewhat jaundiced condition of the skin and eyes, might seem to point to these organs as the seat of disease.

A blister was applied to the throat; the blue mass and hyoscyamus were taken in small doses frequently repeated; cream or milk, with lime water, was employed as food, and to allay the sickness of stomach. The gums soon became somewhat sore, without any material amendment of the symptoms, and the mercurial was omitted. An attempt was made to interrupt the paroxysms of coughing, by quinia; but this was omitted, after a few grains had been taken, in consequence of the irritation of the stomach which it produced. With the same view, enemata of laudanum were administered in anticipation of the paroxysm for two or three days successively. This remedy produced the desired effect, and the harassing laryngeal cough ceased almost entirely, but the irritation appeared nearly to have receded, and the increase of the lethargic symptoms, and the almost constant sleepiness which came on, indicated, but too plainly, that it had been transferred to the membranes of the brain.

Up to this period, Dr. Parrish, though occasionally seen by medical friends, had kept the management of the case in his own hands. Drs. Wood and Otto were now called into consultation with Dr. Isaac Parrish; though even till within two days of the close of the disease, the mind of the patient, when sufficiently aroused, acted with entire clearness, and his opinions were necessarily allowed some weight in the treatment. Towards the close of the case, Dr. Hewson was associated in the consultation.

A few leeches were applied to the temples, and mustard to the feet. Colomel was given in minute and frequently repeated doses, and the diet was continued as before. The drowsiness was somewhat diminished, and the stomach became more retentive, but the case was complicated by the occurrence of singultus, which gradually increased, and soon became one of the most prominent symptoms, continuing, with occasional interruptions, till a day or two before death. Neuralgic pains also occurred in the left thigh and leg, and some soreness was observed along the upper part of the spine. The latter affection increased by degrees, occupying chiefly the back of the neck and the left shoulder, and became at length so severe as greatly to impede motion. Towards the close of the case, it constituted almost the sole source of complaint.

The remedies employed were chiefly calomel in small doses, as before; musk, creosote, asafœtida by enema, and other antispasmodics, for the relief of the hiccough; magnesia and rhubarb, with terebinthinate enemata, as laxatives; blisters to the extremities, and over the stomach; acetate of morphia in small quantities to the blistered surface in the epigastrium, and dry cups to the back of the neck, with the abstraction of an ounce or two of blood from the same part. The diet consisted chiefly of cream and chicken broth. There was a constant desire for cold drinks, in which the patient was indulged, carbonic acid water being preferred, as it quieted the irritability of the stomach. Opiates, moderately given, relieved distress without increasing stupor, but were thought to be followed, when their immediate effects went off. by an increase of nausea, and were used as little as possible. The loss of blood, though indicated by some of the local symptoms, was forbidden by the steadily increasing prostration, and even the slight local bleeding was not well borne.

The treatment seemed to have no other effeet than a temporary alleviation of the distressing symptoms. The disease marched steadily onward. The lethargy increased, the skin became quite jaundiced, the abdomen tympanitic, the pulse more frequent and feeble, and the bowels obstinately costive. Subsultus tendinum came on, but there was no paralysis. The only additional remedies employed were the oil of turpentine, and aromatic ammoniated alcohol. Towards the end of the complaint the sight and hearing were greatly impaired, and for twenty-four hours before death seem to have beeen altogether lost. In the midst of the lethargy there were evidences of considerable physical uneasiness, but this entirely disappeared during the last three or four hours, and life was gradually extinguished without convulsions, or other distressing symptoms.

Death occurred on the 18th of March.

Notes of an examination of the body of Dr. Joseph Parrish, March 19, 1840, thirty-two hours after death. Present Drs. Otto, Wood, Ashmead, Pennock, Gerhard, Kirkbride, Barton, and West.

Jaundiced tint of the skin—emaciation of face very decided,—no infiltration.

Head.—Scalp unusually dry and bloodless; the yellowness extending to the pericranium: adhesion of dura mater to cranium unusually strong; veins of upper part of brain nearly empty; at least three ounces of serum exuded from beneath the arachnoid; this membrane upon its upper surface *semi-opaque*, and elevated by the effused serum; arachnoid not adherent, cloudy, not granulated, quite pale; convolutions distinct, pale, firm; consistence of upper part of cerebrum even greater than usual; both substances extremely pale, with a faint, yellowish tinge; cortical substance projecting above the level of the medullary, and rather disproportionately firm; cerebral substance, in general, extremely firm. One or two drachms of serum in the ventricles. *Plexus choroides* moderately injected. *Thalami* and *corpora striata* firm and normal.

Base of brain offered about two ounces of serum; appearance of this part remarkably healthy, with barely average injection. The membranes are scarcely injected or opaque; substance of brain and cerebellum pale and firm.

Thorax.—On right side some adhesions are found posteriorly, with effusion into pleura of half a pint of reddish serum. The right lung at its summit presents an irregular puckered depression, which is firm and opaque; upon cutting into it, there is found a substance for the most part of a dirty-grayish colour, nearly cartilaginous in consistence, with some grains of a calcareous matter in it, evidently the cicatrix of an old tubercular cavity of small size. From the back part of this depression there extends another one, which is more irregular, running round the lung, and connected with similar deposit. Upon stretching and pulling the lung slightly, cellular tissue may be discovered passing through this hardened mass, and apparently constituting it. Several large vessels may be seen passing around the above cellular substance; one or two slighter depressions of the same kind are found in the adjacent parts of the lung. The substance of the lung generally is gorged with serum, crepitous, and contains air; the vessels are more or less enlarged: the pleura of the upper third of the lung is more or less opaque, giving to the whole of this portion of the lung a peculiar wrinkled aspect, less marked, however, than at the summit. The mucous membrane of the bronchial tubes, opaque, jaundiced, but not reddened.

Left Lung.—Nearly as much serum in the pleural cavity of this side as in the right one, of same character; the lung free from adhesions; its lower lobe more engorged with blood than the right, but containing less serum; still crepitous throughout; upper lobe in its lower three-fourths paler than natural; some emphysema along its anterior margin; tissue engorged with bloody serum; containing air; its upper one-fourth hardened and puckered, but less so than on the right side; whole tissue somewhat solid and condensed. Several masses of cellular substance of the same colour as those in the right lung are found in it, two of which are particularly well defined, and present an irregular central nucleus, one-eighth of an inch in diameter, from which run radii, of firm cellular substance; appearances still more characteristic of cicatrization. No *recent* tubercular granulations, nor any trace of recent tubercular deposition are anywhere discoverable.

Heart.—The pericardium contains about two ounces of bloody serum; the surface of heart is remarkably free from opacity; no adhesion of pericardium, except slightly at the vessels; left ventricle soft, slightly jaundiced; a little thickening about the mitral valve. Semilunar valves flexible, but a little cartilaginous at their base, not, however, sufficiently to interfere with their action. Some cartilaginous deposit beneath the inner membrane of the aorta immediately above the valves. Right ventricle of the same colour with the left; stained somewhat yellowish: valves flexible.

Abdomen.—The peritoneum contains more than a quart of reddish-yellow serum. The *liver* is extremely irregular in outward appearance; its surface is completely studded with irregularly rounded elevations. Some of these are about the size of grains of rice, others two or three times as large. The left lobe is shrunken to half its size; the right a little less than usual. The tissue of the liver is extremely heavy and condensed. The tuberosities of its substance are more marked in the left than in the right lobe, and vary in size from a pin's head to a hazel-nut. The colour is a light fawn—cellular substance much atrophied. The seat of the morbid deposit is evidently in the acini, which vary extremely in size. The blood in the vessels of the liver is thin and watery. The left lobe, when incised, is paler than the right one, and the extreme cartilaginous firmness is even better marked in it. The granulations of the substance are also much more distinct and numerous in the left lobe. The liver is *not fatty*, but on the whole presents a remarkable specimen of that peculiar change in its structure termed cyrrhosis. The bile is thin and greenish; in the gall bladder are found *six* dark green mulberry calculi, about the size of peas—the lining membrane of this part is thin and pale.

Spleen.—Rather firmer than natural; six inches by four.

Stomach.—Of a greenish and reddish colour at its great cul-de-sac, evidently from commencing decomposition; it contains a little thin mucus; its cardiac extremity of a deep red colour, chiefly from imbibition; its lining membrane has been finely injected—not softened; rest of its surface marbled with red and green, mamellated and slightly thickened. (*Note.*—The commencing state of decomposition of the stomach makes these lesions rather doubtful, but evidently this organ has been the seat of chronic inflammation and thickening.)

Kidneys.—Left one very large, with great abundance of fat about it; upon removing it, we opened into a sac which was filled with purulent liquid; the sac containing the pus occupies half the anterior, and the whole posterior of the kidney, except at its summit—it is formed by the proper membrane of the kidney, which is detached from it, and in this way constitutes the abscess. The posterior part of the kidney presents, near its inferior extremity, an adhesion an inch and a half in diameter, rounded, the membrane adjoining it is evidently a purulent membrane, which here and there has small, rounded ulcerations in it. The yellow spots, observable on its surface, connected with the membrane of the kidney, and forming the points of adhesion to it, constitute the exterior of the masses of purulent infiltration into the cortical substance of the kidney. The cellular substance of the kidney remains, but no trace is to be found of the true renal structure: near, and above this, is another purulent infiltration of irregular size, of which there are several throughout the cortical portion, constituting, in fact, small abscesses, the largest of which will contain an almond. About one-fourth of the kidney retains, in part, its normal appearance, but is filled with the yellow granulations of the acini, which are evidently those of Bright's disease. The exterior of this portion of the kidney presents a yellowish chagrined appearance from the projection of the same granulations. The whole of the kidney is enlarged about one-third, lobulated; the ground work of it is of a more livid colour than usual, and soft.

Right kidney about of natural size; investing membrane adheres closely to it; on separating it, the same yellow points, mentioned before, were observed, some of which are from one-half to three-quarters of an inch broad, prominent, soft, and, on penetrating them, they are found to be filled with pus of perfectly healthy appearance. The substance of the kidney, generally, is of a deep red colour, dotted with darker brownish points; at the posterior and inferior part, on detaching the membrane, we open into an abscess containing about two ounces of perfectly creamy, laudable pus, which is contained in a similar infiltrated mass, formed by the cellular substance, here and there thrown into *poches* (very similar to forming abscesses in the lungs), which do not seem to communicate with the calices in either kidney, The rest of the kidney, in its cortical substance, is filled with minute granulations, less marked, however, than in the left one; the cortical substance is soft, reddish, and evidently inflamed.

Bladder very nearly natural; slight roughness of its lining membrane, at its inferior portion, like grains of sand on it.

Pancreas contains more blood than usual; harder; ecchymosed throughout; lobules firmer than usual, harder.

Prostate gland not enlarged, its texture changed internally in about one-half of it, to an almost cartilaginous firmness, of a yellowish tinge, not grating under the knife; upon squeezing it a purulent fluid is poured out, apparently the secretion of the glands; upon cutting into it, the same fluid is seen in small points through it.

Large intestines opened in several places; contain yellow fæces; mucous membrane of a slate colour; no ulceration found at any point observed.

Small intestines of same appearance, apparently perfectly healthy.—*Medical Examiner.*

DOCTOR SPENCER—GENEVA COLLEGE.

Geneva, 20th April, 1840.

To the Editor of the "Select Medical Library," &c.

Sir—My attention has been directed to a paper in the number of your Journal for April, 1840, entitled "An Essay on the Means of improving Medical Education, and elevating Medical Character," with the "Inscription" to "Professor Rogers, M.D.," &c., &c., by "Andrew Boardman, M.D."

As this essay is prefaced by an "introduction," which shows that the writer has taken up some wrong ideas, which, if suffered to remain uncorrected, might convey to your readers erroneous impressions respecting the Medical Institution of Geneva College, I desire you to give place in the next number of your Journal to a brief exposition of the matters to which Dr. Boardman alludes.*

In the "Introduction" is found,

"Promise of the Circular. That the course on Chemistry should be delivered by a doctor of medicine."

"*Fulfilment.* The Chemical course was delivered by a doctor of divinity, who acknowledged, in my hearing, that he had often to lecture from notes that he had not looked at for five or six years before bringing them into the lecture-room."

A doctor of medicine was in good faith appointed to the Chemical chair, and so announced in the circular, but he did not come on, as he had engaged, to perform his duties.

It is true the Chemical Course was delivered, and upon short notice, by a "doctor of divinity," but it is also true that he is a doctor of medicine, and has for several years been a popular professor of chemistry in a New England medical college. Although the multiplicity of duties as president of the college, to which were superadded those of lecturing upon Chemistry, may, upon two or three occasions, have prevented his making all the preparation he could have desired, he gave a course universally satisfactory.

"Promise of the Circular. That a course of lectures on Medical Jurisprudence should be delivered."

"*Fulfilment.* We were not favoured with a single lecture on the subject."

After the death of our professor of medical jurisprudence no separate appointment was made: this branch was given to the Professor of Chemistry, some other professors to give lectures on the subject as connected with their respective departments.

Although disappointed by the Chemical professor who was first appointed, as before explained, several lectures, and ample illustrations, of the modes of testing poisons in connection with legal medicine were given from the chemical chair during the last course. Several lectures were given by Professor Rogers, the first year of his connection with us, on the subject of Medical Jurisprudence as connected with Surgery; and it is believed he by no means entirely neglected the subject during his second and last course.

"Promise of the Circular. That there should be a course of lectures on Physiology."

"*Fulfilment.* No such course was delivered."

The promise of the circular consists in announcing a Professor of Anatomy and Physiology. It can hardly be conceived how a course on Anatomy can be given without combining Physiology in the illustrations.

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* We omit a paragraph which follows, as its object was to urge on us,—that which we have no disposition to refuse—the insertion of an answer to Dr. Boardman's strictures. Having done so, we are now free, however, to decline making this Journal the medium of any farther controversy respecting Geneva College.—*Editor.*

Again a course of Physiology, in connection with general Pathology, was given from another chair.

It can hardly have escaped the recollection of Dr. Boardman that he, as one of the committee of the medical class, requested a repetition of one of the Physiological lectures on respiration and calorification, for the alleged reason "of the great importance of the Professor's views on the subject of calorification;" nor that he evinced the importance he attached individually to those "views" by writing out the principal parts, if not the whole of the lecture.

"Promise of the Circular. That the Anatomical class should have a full supply of subjects for dissection."

"*Fulfilment.* Not a single subject was provided for dissection during the whole session." "Nor was there more than a single subject used for demonstration during the entire anatomical course."

One subject was used in the institution by the Surgical professor, two by the Anatomical, and two by private classes, making five in all during the session.

It, however, unfortunately happened, that the several dissecting classes, organized as usual by each individual paying eight dollars for his dissecting ticket, were disappointed, and the money was refunded.

Although this circumstance was deeply regretted, and careful measures have been taken to prevent a similar recurrence, a candid profession, but more especially those connected with medical schools, will need no statement of reasons to account for such disappointments.

As to the "promise" and "fulfilment" respecting the Western Hospital, it needs but to say that this institution was got up under the special patronage and direction of Dr. Rogers, and if there be any cause of complaint he is the one mainly responsible, both as to the exterior decorations and interior arrangements so poetically described by Dr. Boardman in his migratory movements as "house-surgeon" around the "quiet old negress."

"Promise of the Circular. That a gold medal should be presented for the *best thesis* on any medical subject."

"*Fulfilment.* On this subject I am not a competent witness, and, therefore, take the liberty of introducing the following copy of a letter addressed by Professor Rogers to a few of his friends."

Dr. Rogers says, in the letter referred to,—"After accepting the Professorship of Surgery, I engaged to place, annually, at *the disposal of the faculty*, a gold medal for presentation to that graduate who should produce the *best thesis* on some medical subject."

Near the close of the medical term Dr. Rogers had a medal prepared of nearly *double the size* of the one furnished the preceding year, leaving the name blank. This blank was to be filled, as it had been done the year before, by vote of the faculty, and as Dr. Rogers in his letter says, "Exclusively on the comparative merits of the theses as literary productions;" in short, it was to be awarded to the "*best thesis.*" By this rule the final award was made. This, as Dr. Rogers says, was the rule assented to "by the only collaborator then at Geneva" prior to the medical term. But if this rule for judging of the "comparative merits of literary productions" means that such comparison is to be made by considering only the arrangement of words and sentences, without reference to the thoughts and reasonings, as evincing medical knowledge or soundness of judgment, as the course of Dr. Rogers indicates as his understanding of it, I cannot go with him in the construction.

So far from Dr. Boardman's thesis being "put out of the pale of competition," and "rejected," as Dr. Rogers imagined, it was not "*rejected*," but *accepted* as among the better class of theses. Several others possessed great merit, and as the multiform duties of the president, by the addition of those of lecturer on Chemistry to his ordinary ones, would prevent him from reading all the dissertations, several of the best were handed him, and his attention specially directed to that of Mr. Boardman, as one of two, to which the contest seemed narrowed down.

The others who wrote good theses might, with equal propriety, complain of being " put out of the pale of competition," or " rejected."

Just before the close of the medical term, the opinions as to the comparative merits of the nineteen competitors for the " *Rogers Prize Medal*" were ascertained by an informal ballot, *four* voting for Sumner Rhoades, *one* for Andrew Boardman. Upon this result being declared, Dr. Rogers avowed that he " had read but a *small part* of Mr. Rhoades' thesis, and considered that so poor, that he did not read the rest." He also declined the request of one of the faculty that he *would read* it, and deliberately compare its merits with those of Mr. Boardman's, before the ultimate award of the medal. A few moments after, he avowed his intention of dissolving his connection with the school, and the next day sent in his formal resignation.

Without calling in question the ability of Dr. Rogers to pass upon the comparative merits of theses as " literary productions," where is the *justice* of his sitting in judgment between two productions, *one of which he had not read:* of his instituting the comparison he makes between them in his published letter; or of his pronouncing, with so much assurance as he *ostensibly* does, that " the medal was awarded to a production which no member of the faculty will hazard his reputation by placing on an equal footing with Mr. Boardman's in respect to " merit" in composition and ability in writing.

The faculty believe they have not *hazarded* their reputation in making the decision *as they have done*, upon the very basis he names.

The medal prepared by Dr. Rogers being retained by him after the award, the faculty, in order to the " fulfilment" of their " Promise in the Circular," procured another of entirely similar workmanship to that, except leaving out of the inscription the words " Rogers Prize Medal."

Respectfully, yours, Thomas Spencer.

VALEDICTORY ADDRESSES.

Address to the Medical Graduates of the University of Pennsylvania, delivered April 3, 1840. By Samuel Jackson, M.D., Professor of the Institutes of Medicine in the University. Published by the Graduates. 1840. Pp. 21. 8vo.

Valedictory Address to the Graduates of the Medical Department of Pennsylvania College. By William Rush, M.D. 1840. Pp. 16.

Professor Mitchell's *Valedictory to the Graduating Class* [*of the Medical Department of the Transylvania University*]. Pp. 8.

The moment at which the student of medicine receives his degree of doctor is truly an epoch in the history of his life. Thenceforward he is expected to be able to apply the knowledge gathered from his preceptor and other teachers, and from his readings, and visits to hospitals, to that which is to be the great purpose of his future life,—the relief of suffering and the cure of disease. At such a moment, when yet on the threshold of his Alma Mater, and ere he steps out into the wide world in order to take his position, and to act his part, he may naturally be supposed to linger for a while with mingled feelings of doubt and hesitancy, hope and confidence. He is just in the frame of mind of one who leaves home for the first time on a long journey to a distant land, and who has reached that turn in the road at which he bids a farewell to his parent, who, whilst warning him for the last time of dangers to be shunned by the way, encourages him with the prospect of reward for his toils and exposures, in the new region to which he adventures.

Not less disposed to lend a listening ear, and to be thankful for the advice proffered, is the recent graduate in medicine, when favoured with the valedictory address of one of his teachers, who is a representative for the time of the feelings and sentiments of all of them. With each completed year comes the occasion for this interesting meeting; and of course with the recurrence of the cause which calls it forth, there must follow, very much, a repetition of the advice previously offered,—albeit to different auditors. To expect, therefore, any striking novelty of direction and exhortation in a valedictory address implies either, that the many who have delivered such before have been wanting in their duty, or that the author of the present one should forget his office, and discourse of things foreign from the occasion of the meeting, and from the wants of those who look to him for counsel and encouragement. Still, we may expect a diversity of colouring and certain side-sketches peculiar to the mind and style of each professor; sufficient not only to save his labour from the charge of sameness and dulness, but to impart a certain vivacity of expression to the whole performance.

Doctor Jackson, after a brief yet distinct reference to the magnitude and march of events in the material world, the limitation of human power for modifying them ever so little, and the necessity of patient and persevering individual effort for the general good, proceeds to a specific mention of the duties which the young physician is more immediately required to perform. He classes them under those which are professional, and those which are social. The former to which he restricts his observations are, 1. The obligations for forming professional character, and for completing professional acquirements; 2. The obligation for contributing to the advancement or perfection of medical science; 3. The duties owing to professional brethren; and, lastly, the duties to patients.

The advice given by Dr. Jackson under these several heads is pertinent and pointed. He recommends a persual of "the works of the illustrious dead of past ages," the attainment of "practical knowledge by immediate observation." No means should be neglected for the purpose: "Frequent hospitals, follow the attendance of dispensaries, bestow your services on the poor, so many of whom require and gladly avail themselves of medical assistance," is part of the means urged by Dr. J. in furtherance of this object. Caution is held forth to avoid the common and vulgar notion of supposing the great duty of the physician to consist in prescribing physic. "The last and least important part of the science of medicine is,—the dosing of patients with medicines." Not but these agents are useful, at times indispensable; but it is their routine administration, to the exclusion or neglect of hygienic precepts, and of procuring the confidence whilst amusing the mind of the patient, which is objectionable.

On the next obligation, "to advance and improve the science of medicine," Dr. Jackson tells his auditors both truly and encouragingly: "The advancement of medicine consists in the greater accuracy and extension of its facts, with an adherence to a more rigid method of logic and of reasoning. It is assuming daily more of the character of a physical and positive, and losing that of a speculative and metaphysical science." On the means of success in extending the domain of medical science, the author very properly observes: "The labour given by most men to the acquisition of wealth, applied to scientific objects, would confer on you a celebrity, would make your labours useful to future generations, as to the present. To a generous mind there are far more exciting motives than the mere sordid feelings of avarice."

In speaking of the analytical method now so happily applied to medicine, reference is made to general anatomy and the component tissues of the organs; and hopes are held out of still farther improvements by "microscopic anatomy." Among the contributors to a better knowledge of the elementary organization of the nerves, the name of Ehrenberg is inadvertently omitted. "Organic chemistry is not less rich in its contributions to anatomy, physiology, and pathology, and will soon throw a brilliant light on the darkest spot of our science."

Here Dr. Jackson asks, "who amongst us is at work in the new fields of scientific research, seeking imperishable fame? I fear it must be said, no one." He avails of the occasion, appropriately offered at this moment, to pay an eloquent tribute of praise for the zeal, and of regret for the premature death of, a young physician, Dr. Allison, of Philadelphia, who had just fallen a victim to his scientific zeal.

The ethics which should regulate the intercourse of professional men with each other are well laid down by the author—as regards toleration of differences of opinion, avoidance of controversies, and of interference with a physician who is in attendance on a patient. When called into consultation, to sustain his colleague if the treatment adopted by this latter has been correct, and to avoid all censures and insinuations even if he do not approve of it; secrecy in what occurs in consultation, no *ex-parte* opinions of another's practice to be offered at any time, courteous and kind expression of opinion towards one's predecessor in a family or particular case, are among the prominent points of duty under this head.

Much good and practical advice is offered in reference to the duties of a physician to his patient. The following extracts will fully sustain our opinion in this respect:

> "Take heed that you justify that confidence. Omit no means, spare no pains to understand the case you have in hand. Investigate it closely; examine into the state of every organ and function of the body. Before you undertake to treat it with remedies, satisfy yourselves as to the seat and nature of the affection, and determine what is to be done, and what is not to be done.
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> "In chronic cases review the whole life of your patient. Let nothing escape your research. The diseases of a former time, early or later habits, the state of mind, the business, occupation, modes of living, everything that could have exerted a permanent influence, are to be brought into review.
>
> "In acute cases attended with danger, be assiduous, even to overwatching, in your attentions. In doubtful periods make your visits, for your own satisfaction, more frequently than may be actually necessary. But do not, in that case, burthen your patients with charges for them. When life is in great danger, and depending on your skill, remain with your patient until the event is decided.
>
> "The intercourse of a physician with his patient must be of the most confidential nature. There are occasions when it is necessary that the mind should unburthen its inmost thoughts, and the heart pour forth its hidden secrets. That which is of deeper interest than life itself must be confided to the physician. But for this the most implicit reliance must be placed in his secrecy, his integrity and honour.
>
> "Make it a rule to speak of your patients, their affairs, their families, their diseases, with the greatest reserve. In referring, as may be sometimes necessary, to their cases, do not mention names. The patient must feel assured that the physician is a depository, in whose bosom every trust is sacredly preserved."

The delicate subject of the conduct to be adopted towards the sick person whose recovery is hopeless, and death approaching, is well touched on by Dr. Jackson, and forms the conclusion of his able and instructive address.

Doctor Rush has chosen appropriately enough for the subject of his address "*A few Thoughts upon the Life of a Physician.*" This life is divided "into three common æras—his early labours—his success—and his latter days." After some pertinent allusions to the term of study preparatory to the practice of the art, and the annunciation of an important truth, "that the progressive gain of knowledge is as pleasant to the studious as the acquisition of wealth is to the sordid," Dr. Rush points out the mental and moral manifestations of the physician, "in which he may best predict his future usefulness and fame." When speaking of the ripeness of the physician's fame as of slow growth, he contrasts the tardy, awards of justice, in this respect, to the zeal, intelligence and attainments devoted to the public good at the risk of life, and sacrifice of health and comfort manifested by a young professional man, aye, and one who may have attained the maturity of life, with the ready confidence given to the youthful warrior—such as an Alexander, a Charles XII., and a Napoleon: or poet,—such as a Pope, a Burns, and a Byron; and more important than all—a statesman, to whom the destinies of a great nation were confided, and indirectly those of the whole civilized world,—in the person of the youthful Pitt.

Other trials, also, await the young physician, in his "want of self confidence, arising partly from the modesty of true merit—but more from encountered distrust in others—flattering gleams—and untoward disappointment in professional hopes; the oft mortified sport of the petulant patient, or the inconsiderate employer." Some additional references are made to the clouds which obscure the early life of a physician; before the brighter and steader sunshine of success enlightens and gladdens his path. Part of these prospects are thus sketched by Dr. Rush:

"The worldly favour given to the physician is frequent and practical; and let not the illustration be deemed too familiar, that numbers one of its items in the advantage of his very title; the name of 'Doctor,' is a passport to him. Washington Irving has said, that wherever the benighted traveller hears the sound of music, he may approach in the security of meeting with courtesy and kindness. So the physician; when he hears himself addressed by the social appellation of 'Doctor,' marks in its very sound the pledge of welcome and good will. If this be but a fancied advantage, the traveller at least has found the appellations a fact, for his practical benefit. It has often, through remote and savage countries, been his expedient—and fortunate pretence; and its assumption is a concession of respect to the real healer of diseases."

The law, or doctrine, or practice, call it as we may, of compensation applies advantageously to the physician's continued reputation, and the respect and confidence which he enjoys in the latter period of his life, undiminished even by infirmities and obvious senility. The following conveys a good idea of the picture of this state of things:

"I have said," continues Dr. Rush, "that the usefulness of the practitioner of medicine passes not away in his old age. Time, then, proves to him an equitable paymaster. He is to his latest hour requited for confidence withheld in youth, and, if I may so speak, with interest too, for its early deprivation,—age dims not his vision of disease, nor of the means of its cure; and when his tottering limbs bear him to the door of his patient—it is a sign true as triumphant to the venerable physician, that a life of exceeding value is in jeopardy within. The ripeness of his years, is the fulness of his honour; and in that unalloyed homage, received by illustrious men in their latter days, he enjoys what has been happily called 'the best foretaste of immortality.' As surely as in his path of life, there are many 'ways of pleasantness,' so in its end, there is peace. Many, many, mourn his loss, and his memory is a monument reared by death, to his vanquished but intrepid enemy."

Doctor Mitchell's valedictory enforces good precepts tersely expressed; such as, 1, *the necessity of careful and continued study;* 2, the keeping of a daily record of cases; 3, to have established and correct principles of action. The latter portion of the address consists of allusions to misrepresentations touching the Transylvania University, which are indignantly repelled and exposed by the speaker; and still better of a specification of some of the important additions made to the means of the medical school for successful teaching, including new and fine lecture-rooms, an augmented library, paintings of medicinal plants, and "drawings and paintings for the surgical, medical, obstetrical, and chemical departments," and "fine and variegated models in wax."

Catalogue of the Trustees, Officers, and Students of the University of Pennsylvania. Pp. 35.

A Catalogue of the Officers and Students of the Jefferson Medical College of Philadelphia—Session, 1839–1840. Pp. 12.

Annual Announcement of the Medical Department of Transylvania University. Pp. 12.

THE medical class of the University, during the part session, or that for 1839–40, consisted of four hundred and forty-four persons, attending the lectures, of whom forty-seven were graduates of preceding years. Virginia sent the largest number, —viz., 111, next Pennsylvania, 99, of which Philadelphia alone furnished no less than 55. Next in point of number come North Carolina, which sent 63 students, Tennessee 29, Alabama 24, New Jersey 18, Georgia 17, New York 12, Maryland 12.

The Jefferson Medical College had in attendance in her halls last winter, as appears from the catalogue, a hundred and forty-five students, of whom seventeen were graduates.

Four, if not five, of the names of the same gentlemen are found in the catalogue of the University and in that of the Jefferson College.

The Transylvania Medical School had, last winter, a class of two hundred and fifty-seven persons, of whom 117 are reported from Kentucky, 35 from Tennessee, 25 from Alabama, 13 from Georgia, 12 from Mississippi, 10 from South Carolina, &c.

MEDICAL GRADUATES IN THE SPRING OF 1840. The medical department of the University of Pennsylvania sends out this year a hundred and sixty-three graduates of the season; the Transylvania University, sixty-two; the Jefferson Medical College, fifty-seven; and the medical department of the Pennsylvania College, twenty-five.

WE must content ourselves, just now, with merely acknowledging the receipt of the *Seventh Annual Report of the Trustees of the State Lunatic Hospital at Worcester*, from its able and successful superintendent, Doctor WOODWARD. His own report makes up the chief bulk, as it constitutes the great value, of the documentary matter embodied in the general Report.

From Dr. B. B. STROBEL, of Charleston, we have received a "Report on the Condition of the Marine Hospital, with the number of Patients received, cured, and died from the 1st November, 1838, to 1st November, 1839." Also, by the same gentleman, "An Essay on the subject of the Yellow Fever, intended to prove its Transmissibility." 1840.

MR. GRAHAM'S LECTURES ON THE SCIENCE OF HUMAN LIFE. The Editor of this Journal has not yet seen a copy of Mr. Graham's Lectures. He is indebted to a friend,—a former and valued colleague in various editorial duties,—for the analytical notice which has been given in a preceding part of the present number.

DR. REYNELL COATES' LECTURES ON PHYSIOLOGY. We learn from various and authentic sources, that Dr. Reynell Coates has met with full success in his new and important mission, we must call it, of teaching the public, in general, the principles of physiological science and its application to hygiene, mental philosophy and natural history. His two courses of lectures delivered in this city were attended by large and intelligent audiences, some of the members of which were medical men, who took the lead in an attestation of the pleasure and instruction received by all. Similar testimony was presented of the Doctor's successful teaching in Wilmington, Delaware. He has, we learn, received an invitation from Poughkeepsie to repeat his course there. We cannot but anticipate, with lively pleasure, similar expressions of sentiment from nearly all parts of the country. There is no branch of science which admits of so direct and important an application to men's comforts and well-being, and of course to their happiness, as Physiology blended with Hygiene.

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PULMONARY CONSUMPTION.

We have selected, and now link together, the following articles on the ever interesting and unhappily still uncertain subject of *Phthisis Pulmonalis.* The first of these, on the physical diagnosis of the disease, will prove of sensible service to those, and we fear the number among us is yet considerable, who have not attended to percussion and auscultation. It is surely a step in advance to be able to tell clearly what is the matter with a patient even though we may not be able to advance yet farther and cure his disease. The first two articles are the substance of papers in the Guy's Hospital Reports, and are taken from the *Medico-Chirurgical Review;* the last is from the *Lancet* (Feb. 15).—Ed. Eclect. Jour.

ON THE PHYSICAL DIAGNOSIS OF INCIPIENT PHTHISIS. BY H. M. HUGHES, M.D.

Dr. Hughes admits the difficulty and insists on the advantage of physical diagnosis, or of correct diagnosis assisted by physical investigations, in the early stage of phthisis. He attempts to contribute to our means of attaining the precision we so much desire.

The local signs, he says, of tubercular irritation may, like those of advanced phthisis, be obtained by three modes of investigation—inspection, auscultation, and percussion. And he observes that it may be premised, that none of the physical signs of either the early or advanced stages of phthisis are pathognomonic; that their value depends almost entirely upon their existing primarily in certain parts of the lung, and progressively extending to the remainder of the organ; that the physical diagnosis of the disease, in fact, results from comparison of the phenomena observed in the examination of the different regions of the chest. The importance of this comparison arises from the well-ascertained and acknowledged facts, that phthisis almost uniformly commences in the superior part of the lung, and gradually proceeds downwards; and that the disease, in the great majority of cases, does not affect both lungs equally, but appears earlier, or advances more rapidly, on one side than the other. Hence it arises, that when tubercles are deposited throughout the entire extent of the organ, as in some very uncommon cases, the diagnosis derived from physical investigations entirely fails.

Inspection.—To practise this mode of examination, it is of course necessary that the upper part of the chest should be bare, and also that the patient should be quite at ease, should use no muscular exertion, and should, in whatever position, be perfectly straight. It is desirable also, that the patient should be placed opposite to the light; that he should recline, with his back supported in bed or a high-backed chair; that his head and shoulders should be thrown back. When thus situated, it is not very uncommon that, previously to any investigation, there may be observed, in persons naturally well formed, a difference in the contour of the two infra-clavicular regions; one being full and rounded, the other comparatively depressed and flat. The difference, it is true, is often very slight; but it should not, therefore, be disregarded: for though, when existing alone, it is of little value as an indication, it may be of importance, as a corroborative evidence, when viewed in connection with other signs of the disease. On now directing the individual to take a deep inspiration, there is frequently observed a very obvious variation in the amount of expansion of the two sides; one being elevated, as in health; the other being comparatively motionless. This difference of expansion may be sometimes better appreciated, and on all occasions may be confirmed, by the sense of touch. Thus, by placing the expanded hands at the same time on the corresponding sides, and again telling the patient to take a full inspiration, the unequal expansion frequently becomes increasingly evident.

This is very good advice, but Dr. Hughes must be aware, and indeed admits, that there is no novelty in it. Every good physician employs this means of diagnosis as a matter of course, and frequently derives great advantage from it. We confess ourselves sceptical of the sub-clavicular flattening as an *early sign* of phthisis. Dr. Hughes observes:—

"It may be necessary to mention, that an appearance of sinking may sometimes exist on one side, depending on partial emphysema and consequent increased roundness and fulness of the other. The diagnosis, however, will be evident on further investigation; as not only will the larger side be unnaturally resonant on percussion, compared with other parts of the chest, but will evidently expand less than the opposite side on deep inspiration.

On referring to Dr. Stokes's valuable publication on diseases of the chest, after this paper was nearly written, I was much gratified to find that he had observed the early and frequent flattening of the infra-clavicular regions in phthisis. For the purpose of accurately determining the difference of the two sides, he recommends admeasurement in the antero-posterior direction, by calipers. I have not adopted this mode of ascertaining the point under consideration; as I had not heard, and, I must confess, had not thought of the practice. But I may observe, in reference to admeasurement of the chest, that if alone trusted, or if regarded as superior in accuracy to the eye, it may often lead to error. I have seen this very strikingly exemplified in cases of empyema; in which, though the eye distinguished an evident bulging of one side, it was found, on accurate admeasurement, to be very little or not at all larger, and in one case even less than the healthy side. Dr. Williams has also, in his admirable little work, mentioned, though very briefly, the difference of expansion in the two sides of the chest at an early period of phthisis; and Andral has observed the occasional occurrence of flattening or depression."

Auscultation.—"The information," we cannot forbear quoting the entire passage, "derivable from this mode of investigation is often nearly equally decisive, and is generally attainable at an earlier period than that dependent on percussion. But the sources of this information are also more variable; and require more delicacy, and a nicer discrimination, than that resulting from the comparative dulness of the two sides. In some cases, the only appreciable difference from healthy respiration is a decrease in the vesicular murmur. As this, however, sometimes naturally exists of different intensity on the two sides of the same individual, it is available, as a diagnostic sign, only when it is very decided, and when it co-exists with others which are of a less questionable character. In other instances, combined with the decreased vesicular murmur, there is heard, in one of either the infra-clavicular, acromial, or scapular regions, a marked increase of the sound of expiration; which in the natural state is nearly inaudible; and which, though it may not be particularly striking when attention is directed only to one part of the chest, becomes sufficiently obvious when compared with that observed in healthy portions of the lungs. In other, perhaps more advanced cases, in addition to the deficiency of the pure vesicular murmur, and to the increase of the expiratory sound, there exists a hoarseness of the respiration,—a diminutive, if I may be allowed the expression, of bronchial respiration. Andral states, that an increase of the natural respiratory murmur —and Dr. Stokes, that puerile respiration—is sometimes observable in the very portion of the lung which is affected with incipient phthisis. This statement may be correct; and it would be far from becoming in me to doubt the accuracy of such justly celebrated observers. I may still be allowed to say, that after considerable attention to the local signs of phthisis and other diseases of the chest, I have never yet had reason to think that pure puerile respiration results as an immediately local effect of either bronchial irritation preceding the deposition of tubercles, or of tubercular consolidation itself. It may indeed be, that the hoarseness of the respiration, of which I am now speaking, is that to which these authors refer. The respiratory sound is indeed louder than in the natural state, and no rattle is combined with it; but it is not, as it appears to me, simply an increase of the pure vesicular murmur, but resembles, as I have already said, a diminutive of bronchial respiration; and is produced, I doubt not, by thickening, or compression of the minute bronchial tubes. As miliary granulations are generally preceded, and rarely exist in considerable numbers, without some bronchitis, there is not unfrequently added to the signs already mentioned, and sometimes obscuring the more delicate among them, either a small, thin mucous rattle, resulting from the admixture of air with the glairy fluid existing in the minute tubes, or a single clicking sound, arising apparently from portions of thick viscid mucus, presenting an obstacle to the passage of air through those of larger calibre. These are not sometimes heard, on a superficial examination; and become audible only at the termination of a deep inspiration, and when the superficial parts of the chest are made tense by drawing the shoulders forcibly backwards, if the examination is made at the anterior, and by crossing the arms and inclining the body forwards when it is made at the posterior part. Two other signs afforded by auscultation may be mentioned; though I believe they are usually not so early in their appearance as those already referred too: they are, a trembling vibration of the voice, or a slight modified bronchophony, and an increased distinctness of the sounds of the heart observable over the affected portion of the lung; when the heart itself, and the great vessels connected with it, are ascertained, by previous or subsequent examination, to be in a healthy condition.

"The whole of the preceding auscultatory signs—with the exception of the two last, which result from a partial consolidation of the lung—appear to depend upon thickening, or compression of the smaller bronchial tubes, or upon a secretion from their lining membrane; and may therefore all exist in simple bronchitis. From it, however, incipient phthisis may generally be distinguished, by the signs being confined to a small portion of the lung, which, in a vast majority of cases, and, in the simple forms of the disease, perhaps nearly universally, is the apex of the organ,—while bronchitis almost as commonly affects the entire surface of the bronchial membrane; by the continuance of the local signs of the former complaint, without important change; and by the general history and character of the disease. That the physical diagnosis cannot be always satisfactorily established, has been already acknowledged at the commencement of this paper."

It will be observed that the information given to us by Dr. Hughes coincides pretty nearly with what we have generally counted on—that the respiratory sound is often slightly increased and modified in the earlier stage of phthisis. It matters little what precise term is given to the alteration—*that* is too vague to allow any term to fit it without risk of misconception—and the result of our experience is, that the sign itself must be received with caution, and not depended on over much. Auscultators too frequently make sad blunders.

Percussion.—"The sign afforded by this mode of investigation, though late in its appearance, is perhaps more valuable than most of those that had been before mentioned as an indication of the *presence* of tubercles. Like, them, however, dulness on percussion derives its importance, as a diagnostic, entirely from the part of the chest in which it is discovered. Thus, the same amount of dulness in the base and apex of the lung would be very differently regarded by the experienced auscultator. The one might be thought to result from pleuritis or pneumonia; the other, particularly if confined to one side, would be considered indicative of phthisis. I have almost always found that mediate is preferable to immediate percussion, and that the very best plessimeter is one or more fingers of the left hand. I have also found that minute differences of sound are best elicited by gentle percussion; and that they are more clearly distinguished immediately below the clavicles, than, as is recommended by many authors, by tapping the clavicle themselves. It is desirable, though I do not recollect to have ever met with or heard the observation, that the examination by percussion should be made during forced inspiration, and forced expiration, as well as during the ordinary degree of expansion of the chest; as, by these means, consolidation, even when separated from the surface by an intervening portion of healthy lung, may be sometimes discovered. When percussion has been performed on one side, the resulting sound should be immediately compared with that elicited by the same means from an exactly corresponding situation on the opposite side, and the strokes alternately repeated in quick succession. By adopting this procedure, slight differences of sound may be often made sufficiently obvious, which would otherwise have escaped detection. If both infra-clavicular regions sound well, and equally well, it is desirable to make a similar examination of the superior parts of the mammary regions; as it sometimes, though unfrequently, happens, that tubercular deposit first occurs in the latter. It is also desirable to examine by percussion the acromial and scapular regions; though I believe that the sounds afforded by them are not, in the healthy condition, sufficiently clear to indicate slight alterations of structure in the pulmonary tissue. If both infra-clavicular regions are equally though not sufficiently resonant, the sound should be immediately compared with that afforded by percussion of other regions, particularly the mammary, the axillary, and the lateral."

All this is judicious—*is* usually practised by careful and by well-informed men—*ought* to be practised by all.

Dr. Hughes adds .—

"If, then, in a person labouring under bronchial irritation, with either a scrofulous constitution, or an hereditary predisposition to phthisis, there be observed a flattening or deficient expansion of one of the infra-clavicular regions,—if there exist permanent feebleness or hoarseness of the respiration, or an increase of the respiratory sound,—if a slight muco-crepitating, or small mucous rattle be discovered in the infra-clavicular, acromial, or scapular regions of one side (or indeed of both sides, when they do not exist in other parts of the lung), even though there should be no dulness on percussion,—the commencement of phthisis may, I feel assured, be predicted, with considerable confidence. It is not probable, and indeed is scarcely possible, that all these signs should be present in the same individual at the same time; though many may co-exist, and all may successively appear. The greater their number, and the more obviously marked their character, the less hesitation will there be in pronouncing an opinion upon their cause. Dulness or difference of sound, on percussion, if it should not be already distinguishable, will probably too soon make its appearance, unless prevented by appropriate remedial measures; and high probability will then be converted to almost a certainty.

We have given these remarks, because they embody all that can be said upon a very interesting subject. We cannot flatter our author by professing that we discover any novelty in his mode of looking at it, or any suggestions which wander from the track of the experience of the best informed physicians. But, in our science, it is very useful to dish up a rechauffé of things which ought to be remembered, and are frequently forgot. And he who cooks the hash, or he who serves it may receive some thanks—as comfort for Dr. Hughes and for ourselves.

DR. GUY ON THE PULSE IN PHTHISIS PULMONALIS.

Dr. Guy, as our readers well know, has already given us some interesting observations on the pulse; he has followed them up in the case of phthisis, and communicates them to the profession in the present number of the Reports. We extract his summary:—

1. In cases of phthisis pulmonalis, the frequency of the pulse varies within wide limits; the difference between the extremes amounting to 90 beats.
2. In the same individual, the frequency of the pulse undergoes remarkable fluctuations; passing, in a few days, through a range of upwards of 60 beats.
3. In five out of six cases, the frequency of the pulse in phthisis exceeds the highest frequency observed in health.
4. The difference between standing and sitting in phthisis is nearly the same for all frequencies of the pulse.

5. The maximum difference between standing and sitting, in all cases of phthisis pulmonalis, falls short of the mean difference in health.

6. From the average results of a considerable number of cases, it appears that the mean difference in health is six times as great as the mean, and three times as great as the maximum, difference in phthisis.

7. On the supposition that the slight effect produced by change of posture is peculiar to phthisis pulmonalis, it forms one of the most constant and certain of its symptoms.

8. On the supposition that the slight effect produced by change of posture is common to more than one disease characterized by increased frequency of pulse, it will distinguish these diseases from others with which they may be confounded; and these diseases themselves are easily distinguished from phthisis pulmonalis, either by the peculiar character of the pulse, or by other physical signs.

ON THE PREVENTION OF TUBERCLES.

In a letter addressed to the Royal Academy of Medicine, M. Coster announces that from certain experiments which he has made, he hopes to prove,

1. That it is possible, even in the face of predisposing causes, to prevent the development of the tubercular diathesis.

2. That even where the formation of tubercles has commenced, their progress may, in a great number of cases, be arrested.

The following are a few of the experiments upon which M. Coster has built up his hopes:—

Two years ago he placed a number of dogs, rabbits, &c., in the circumstances most favourable to the development of the scrofulous diathesis. Thus, many of the unfortunate animals were shut up in dungeons, without light, incapable of moving, and exposed to a moist cold by means of wet sponges, which were hung up in the cages. Some of the animals placed in these conditions, were fed on their ordinary diet; others were fed with *ferruginous* bread, containing ½ oz. of carbonate of iron to the ground. All the former became ill, the greater part tuberculous, but not one of those fed on the bread containing iron presented a trace of tubercles.—*Bult. de l'Acad.* Jan. 31, 1840.

STATISTICAL NOTICES OF ONE HUNDRED AND TWENTY CASES OF CARCINOMA UTERI, WITH REMARKS.

BY J. C. W. LEVER, ESQ.*

MR. LEVER makes some observations on the value of the numerical system, as a test of the correctness or erroneousness of our opinions, observations too accordant with the general tenor of our own, to make it requisite for us to quote them.

Mr. Lever has selected as the subject matter of this paper, cases of undoubted "Carcinoma," a disease which never fails to develop its malignant and fatal termination. It occurs, he tells us, more frequently than at first thought we might be led to expect; the registers of the obstetrics out-patients of Guy's Hospital show that the proportion of cases of carcinoma uteri to cases of other uterine diseases, is nearly as 1 in 7, or 13.5 per cent.

Age.—The period of life most obnoxious to the disease is from the 40th to the 50th year. For, there were:—

Between 25 and 30 years	3·3 per cent.
30 — 35	15·
35 — 40	10·83
40 — 45	20·
45 — 50	20·
50 — 55	13·3
55 — 60	14·16
60 — 65	0·83
65 — 70	1·6
70 — 75	0·83

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* Medico-Chirurgical Transactions, 1839.

Condition.—Single women bear a proportion of 5·83 per cent., married women 86·6 per cent., and widows 7·5 per cent., affording a complete refutation of the statement, that celibacy favours the development of the disease.

Ages at Marriage:—

34·16 per cent, married between the ages of	15 and	20
36·66	20	25
20·83	25	30
1·66	30	35
0·00	35	40
0·83	40	45

Number of Children.—The number of children produced by 113 married women amounted to 596, of whom 301, or 50·51 per cent., were boys, and 295, or 49·49 per cent., were girls. If from these 113 married women, we deduct 10 who had borne no children, we have 103 bearing women, to produce 596 children, rather more than 5¾ to a marriage. One of the sterile women married under 20 years of age, seven under 30 years ; one under 40 years, and one at the age of 44 years. Ten barren women out of 113 will amount to 8.8 per cent. This per centage exceeds the average of barren women, for it has been found that 1·20th, or 5 per cent., of married women, are wholly unprolific.

Abortions.—Forty per cent. of the females had miscarried. The collective total of their abortions were 122, an average of rather more than 2·54 to each woman. Adding the miscarriages to the number of children born, we shall have the number of conceptions, and we shall find, that out of 100 conceptions, the abortions were nearly 17, or, more correctly, 16·8.

Complexion.—The number of light-complexioned women affected with this malady, amounted to 20·8 per cent., while those who are recorded as being of dark complexion, amounted to 79·16 per cent.

State of Uterine Health in early Life.—Only 25 women, or 20·8 per cent., had enjoyed good uterine health in early life, while 95, or 79·16 per cent., had suffered either from (what is termed) functional disease, or syphilis. The most frequent malady was dysmenorrhœa, with which no less than 66 had been afflicted.

The proportions stand thus :—

	per cent.
Those who had had a good uterine health	20·8
Those who had suffered from amenorrhœa	15.8
Vicarious menstruations	0·83
Menorrhagia	1·66
Dysmenorrhœa	54·16
Syphilis	6.6

Duration of the Disease, and Termination.—Death occurred in 107 cases, the average duration of the diseases being 20¼ months. The shortest duration of the disease was 3 months, the longest 66 months. In single women the average duration of life was 21·66 months ; while in married women, who had borne no children, it was 21·3 months. In females who in earlier or later life had suffered from dysmenorrhœa, the average duration was 19·7 months ; in those who had suffered from syphilis, 21 months ; from amenorrhœa, 22·9 months ; while in those who in early life had enjoyed good uterine health, it was 22·59 months.

Mr. Lever adds :—

"In six patients only have I been able to trace the existence of carcinoma in the maternal parent, four were affected with carcimona uteri, and two with carcinoma mammæ ; this, however, must not be regarded as an average or proportional number, for many women could give no account of their parents, while others stated their mothers to have died from diseased womb, without being able to state the precise disease." 272.

A valuable paper, which induces us to hope that Mr. Lever will continue to pursue, and not forget to promulgate, his researches.—*Med. Chir. Rev.*

ON OBSTETRICAL AUSCULTATION.*

THE following summary of an elaborate thesis, recently published at Strasbourg by Dr. Carriere, will probably be read with profit as well as interest.

Dr. C. alludes to the more than ordinary difficulties which attend the successful pursuit of this branch or department of auscultation. He admits that he was often foiled in his early attempts, and that it was only by the most assiduous perseverance that he at length succeeded in being able to recognise the various sounds which have been described as emanating from the uterus when in an impregnated state. He does not, however, hesitate to assure his readers that any one may, by repeated practice, acquire—provided his hearing is of average delicacy—the necessary aptitude to recognise, and that too with facility, all the auscultatory signs of pregnancy.

Let the young practitioner, therefore, be not discouraged, if he should fail in his early researches, but let him perseveringly avail himself of every opportunity to accustom his ear to the sounds which were audible in the abdomen, whether in the impregnated or unimpregnated state; and he will probably be rewarded, much sooner than he expects, with success to his desire.

The first point which Dr. C. examines is as to the proper position of the woman during auscultation. Some prefer that she should be standing, others that she should be in the horizontal position. Dr. C. gives the preference to the latter position; although he admits that it is occasionally useful to examine the patient while standing.

The next point is the question of the comparative advantages of the stethoscope and of the naked ear in obstetrical auscultation. There has been considerable difference of opinion here. MM. Dubois, Hohl, and Nægele give a decided preference to the use of the instrument; while *Ulsamer*, *Haus*, &c., have rejected it entirely. M. Stoltz says that the naked ear suits very well those cases where the abdominal parietes are closely in contact with the uterus, (*immediatement appliquées sur l'uterus*,) and that the stethoscope is preferable in those where it is necessary to press these parts much inwards. On the whole, however, he generally makes use of the instrument. Dr. Carriere quite agrees with his preceptor in this opinion. Besides the inconvenience of applying the cheek to the abdomen, the ear, when directly applied, is liable to be confused with the different sounds proceeding from the bowels, and thus is much less fitted to appreciate the strictly uterine sounds. Besides, as Laennec himself remarked, when we employ immediate auscultation, the physician is obliged to employ more force than when the stethoscope is used in pressing the abdominal parietes inwardly, in order to bring them into close contact with the uterus. This is more especially true in the early stage of pregnancy. Indeed Dr. C. affirms that "it is impossible to auscult with accuracy before the fourth or fifth month unless we use the stethoscope." If the instrument does not render the sounds louder, it certainly makes them clearer and more distinct.

The following is the manner in which Dr. C. proceeds in his examination. He commences by applying the end of the stethoscope, the plug being removed, to the left iliac region, because there the double pulsation or tictac of the fœtal heart is most frequently heard. If it is not audible there, he moves the instrument a little up, then down, then to the outside, and lastly, to the inside of the spot from which he started, thus proceeding from the left iliac region as from a centre. As soon as he discovers the pulsation he then follows it step by step as it were, so as to determine the direction in which it is heard, and the precise point at which it is loudest and most distinct.

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* Med. Chirurg. Journal, April, 1840.

Even when we discover the cardiac tictac in the left flank, it is always right to examine with equal care the opposite one, as it is possible that another pulsatory sound may be heard on the right side.

Having thus satisfied ourselves of this most important phenomenon, we should then endeavour to detect the other acoustic sign of pregnancy—the blowing or placentary sound.

"In women," says Dr. Carriere, "whose pregnancy is but little advanced, as far as the third or fourth month for example, the placentary or blowing sound is to be sought for immediately above the symphysis pubis, the fundus of the uterus scarcely overtopping at this period the plane of the inlet of the pelvis. In such an examination it is quite necessary that the woman should be lying on her back, with the limbs drawn well up so as to have the abdominal muscles relaxed, and that the stethoscope be used for the purpose of pressing them well in upon the uterus. This is especially important at the early periods of pregnancy; as, then, not only should the abdominal parietes be kept in immediate contact with the uterus, but also this viscus with the contents within its cavity."

Never let the young auscultator abandon the pursuit of this phenomenon, however much he may be foiled in his early attempts. Let him again try the experiments in the same case in the course of a day or two; and let him persevere in this manner, but without fatiguing himself too much at any time, until he succeed in detecting the sought-for sound. Laennec has alluded to the intermittence of certain stethoscopic phenomena, and has strenuously urged the importance of frequently resuming the attempt, however unsuccessful the pursuit may be at first.

Dr. C. next alludes to some of the possible causes of error into which the unpractised obstetrical auscultator may fall.

1. The sounds of the heart and of the respiration of the mother are in some cases communicated along the abdomen, and may be distinctly heard, when the ear is applied over the epigastrium. The one sound has been mistaken for that of the fœtal heart, and the other for the placentary bruit. Very slight attention, however, will guard against such errors.

2. The sounds proceeding from the intestines may disguise, but certainly they cannot imitate, the genuine uterine sounds.

3. Lastly, the sounds proceeding from the muscular contraction of the limbs and body of the observer himself—a sound which resembles the distant rolling of a coach, or the noise of a fall of water—should be guarded against.

On the whole, however, it will invariably be found that, when once the ear has been accustomed to the genuine uterine sounds, it is not likely that they will be confounded with any other, as they have a very peculiar and distinguishing character.

We shall now make a few remarks on each of the two uterine sounds.

1. *The Blowing Sounds.*—All authors agree that this sound is much more inconstant, fugitive, uncertain, and difficult of detection, than that of the fœtal pulsation. Some indeed have gone so far as to deny its existence altogether; and others have described it in such terms as must lead us to imagine that they in truth never heard it. Dr. Carriere, while he admits the frequent difficulty of discovering this sound, assures his readers that its leading characters may generally be detected by any attentive observer, whose ear has been sufficiently practised in obstetrical auscultation. He thus describes it:—

"This phenomenon consists usually in a sort of jerking sound (*bruissement* *saccadé*) more or less prolonged, and interrupted by regular intervals: it has been frequently compared to the sound proceeding from certain arterial aneurisms.

"Laennec compares it to the blowing noise frequently heard in the large arteries of chlorotic patients; Velpeau to the sound of muscular contraction, or to that produced by strongly compressing arterial trunks. To say the truth, it is certainly not easy to convey to those who have not heard it, a right idea of the uterine blowing sound."

Whatever be its character, it is always strictly isochronous with the pulse of the mother,—becoming duller and more prolonged, when the pulse is slow; and more short and dry, when the pulse is quick. It is never accompanied with any shock; and it is usually limited to a circumscribed spot, decreasing in distinctness as the stethoscope is removed from the point where it is heard loudest. Let it also be remembered that at one moment it may be heard distinctly, and that the next minute it may be quite inaudible; its tone or character being often found to vary in the course of a few minutes. It is generally imagined that the blowing sound is heard on the opposite side of the hypogastrium from that on which the fœtal pulse is perceptible. That this is not always the case will appear from the circumstance that, out of sixty-one cases observed by Dr. Carriere and in which the exact position of the two sounds was carefully noted, they—the sounds—were heard on the same side in not fewer than thirty-four.

Of sixty-six cases, where the position of the blowing sound was noted, it was heard on the left side in thirty-eight, on the right side in twenty-eight, eleven times about the middle of the hypogastrium, seventeen times higher up, and thirty-eight times low down; or we may state these results in a different manner, the *bruit de soufflet* was heard twenty-one times on the left side and low down, seventeen times on the right side and low down, eleven times on the left side and high up, five times on the right side and high up, six times on the left side and in the middle, and six times on the right side and in the middle.

With respect to the earliest period at which this sound may be heard, Dr. C. informs us that he has in several cases succeeded in detecting it as early as the end of the third month, when the fundus of the uterus had scarcely passed above the level of the pubis. Far from being diffused at so early a period of pregnancy as *Hohl* has alleged, Dr. C. always found it to be limited to a very circumscribed spot at first.

As this sound is intimately connected with the circulation in the placenta, it is obvious that it must be audible earlier in some cases than in others, as it is well known that the placenta varies a good deal in the place of its attachment to the uterus in different cases; being sometimes near to the fundus and in other cases considerably lower down. The higher up that it is, the more early, we may expect, will be the development of the blowing sound.

As pregnancy advances, it becomes much louder and more readily recognisable. However it is not always loudest in the eighth and ninth months; being in some cases observed to be much more distinct and obvious in the seventh. The causes of the various modifications of this sound in different cases are certainly not well known.

During the uterine contractions, or *pains*, of labour, the blowing sound becomes much weaker, or is altogether suspended—returning however after the pain has passed away.

It is usually much more distinct after the amniotic waters have been discharged.

Not unfrequently it continues for several hours after the expulsion not only of the fœtus, but of the placenta also. Dr. C. is of opinion that this persistence of the sound after delivery is connected with the more or less imperfect contraction of the uterus upon itself.

Before quitting the subject of the blowing uterine sound, it may be useful once more to repeat that the failure of detecting it on one examination is never sufficient evidence, even with the most experienced auscultator, that it is altogether absent. What may be the cause of its occasional interruptions has not yet been explained; but that such is the case, will not be denied by any who have had ample opportunities of practical information.

It has been alleged, and apparently with reason, that an excessive quantity of amniotic fluid has the effect of obscuring the blowing sound. The attachment of the placenta to the posterior wall of the uterus will no doubt have a similar effect.

Again, the death of the fœtus is probably always followed by a diminution or even by a total suspension of the blowing sound.

As to the proximate cause and seat of the blowing sound, Dr. C. refers them to the circulation of the blood through the placenta.

The opinion maintained by Haus, Bouillaud and others, that this phenomenon is owing to the compression of the gravid uterus on the iliac arteries, is in his mind altogether untenable. Its seat is by no means in most cases correspondent with the direction of these blood-vessels; and moreover the genuine uterine blowing sound, although analogous to that produced by pressing the end of the stethoscope firmly over the *trajet* of a large artery, is certainly not identical with it.

Dr. Carriere has repeated the experiment of Laennec, of making the woman lie first on one side and then on the other, so as to cause a variation in the point of the chief compression of the iliac vessels and consequently in the place occupied by the blowing sound—if it be really attributable to such compression; but with no better success than his predecessor.

Without canvassing the opinions of other writers as to the cause of this sound, we shall now briefly state the views of Dr. Carriere on this much-disputed point.

"I am quite satisfied in my own mind that the uterine blowing sound has its cause in the passage of the arterial blood in the uterine sinuses, and that in the great majority of cases its seat corresponds exactly with the insertion of the placenta.

In a number of cases where I have passed my hand along the umbilical cord after the delivery of the child, I have always found that the placenta has been attached exactly at that point of the uterus over which the blowing sound had been heard during gestation. In one interesting case of death from convulsions within twenty-four hours after delivery, the place still quite visible on the inner side of the uterus where the placenta had been adherent, was found on dissection to correspond precisely with the spot where the sound had been perceived during life. I believe with M. Dubois and others that the mechanism of the blowing sound has something analogous with that of the sound heard over an aneurismal varix—its determining cause being the flux of the arterial blood into the uterine sinuses, a flux which is more active and considerable at the point where the placenta is implanted."

Occasionally, but this is rare, the blowing sound is perceptible over almost the whole anterior surface of the uterus.

"This fact," says Dr. C., "which denotes great activity in the uterine circulation, does not at all militate against the opinion which I profess relative to the relation of the blowing sound to the placenta; for I have never pretended that the dilatation of the uterine vessels was limited abruptly to its circumference; and on the other hand I am convinced that, in those cases where the sound is unusually widely diffused, it is always more decided and sibilant at the one point where the placenta is implanted."

With respect to the value of this blowing sound as a sign of pregnancy, Dr. C. is inclined to consider it as an almost certain indication. He much doubts whether the presence of a tumour in the pelvis or in the uterus itself does ever give to the *genuine* blowing sound of pregnancy, although MM. Velpeau, Rayer, Bouillaud, Bricheteau and Stoltz have asserted that such has been the case.

This opionion of our author is confirmed by the high authority of M. Dubois—who denies that the uterine *souffle* is ever produced by any cause independent of pregnancy—and also of Mr. E. Kennedy.

With the latter gentleman he also believes that the sound may continue to be heard, but less distinctly, for some time after the death of the fœtus.

The force of the sound cannot indeed be ever taken as a sign of the vigour of the infant; it can only indicate an active circulation of the uterine vessels, and perhaps also the existence of a large placenta.

The Fœtal Pulse.—Dr. Carriere compares the double *tictac* of the fœtal pulse to the ticking of a watch wrapped round with several folds of linen, with this difference only, that the latter sound is drier and of a more metallic sharpness than the former. The number of pulsations varies from 120 to 180; the average frequency may be said to be 140 beats in the minute. In force and distinctness too they are found to differ much not only in different cases, but also in the same case at different times; sometimes they are so distinct that they are at once and without the least difficulty perceptible, whereas in other cases it requires the greatest attention and nicety of observation to detect them at all. Occasionally the fœtal pulsation appears to be simple, and not double, as usual, the second sound of the heart's action being quite obscured.

In reference to the comparative constancy of the two uterine sounds—viz., the placentary and the fœtal—it has been asserted by almost every writer on obstetrical auscultation, that the sound of the fœtal heart is greatly more constant than the placentary or blowing noise.

Were we to judge from the results of a single examination in a given number of cases, we should at once assent to such a judgment; but as we have seldom failed ourselves to detect the latter sound, if the auscultation has been repeated several times at short intervals, we are inclined to hesitate somewhat on this point.

"In consulting," continues Dr. C., "a summary of the observations, which I have made since the period when I could place confidence in my auscultatory inquiries, I find that out of fifty-nine cases, the blowing sound was detected in fifty-seven, and the fœtal pulsation in fifty-seven also. In these reports, I find it frequently remarked, 'no blowing sound appreciable;' or, 'blowing sound feeble at such a point;' then afterwards, perhaps in a few days or a week or two, 'blowing sound strong, intense, or even whistling, &c.' It is therefore quite manifest that, before we can establish the relative constancy of the two signs, we must not trust too much to the results of a single, or even of a few observations. If a woman be examined but only once, there is certainly on the whole a greater chance of detecting the fœtal pulse than the blowing sound."

Most obstetrical auscultators agree that the fœtal pulse is rarely if ever, heard before four months and a half or five months have elapsed. We cannot wonder at this when we remember that the organ, even at this latter period of intro-uterine life, is still very small, and that moreover the fœtus lies low down towards the cervix of the womb, and therefore behind the symphysis pubis. Even for a month or two later, the great relative quantity of the amniotic fluid, the mobility or want of fixed position of the fœtus, the size of which is not yet nearly sufficient to fill the bag of the membranes, &c., are circumstances which tend, even up to the middle of the sixth month of gestation, to occasion many chances of unsuccess.

The sound of the fœtal pulse always becomes louder, and more diffused, when the waters escape, more especially when these have been very copious. The pains of labour have usually the effect of rendering the fœtal pulsations slower, feebler, and less regular than they were before. During a protracted labour, the number of pulsations generally becomes very sensibly diminished not only during the uterine contractions, but also during the intervals of rest.

Naegele has found them to fall down as low as sixty-five; and in one case where the umbilical cord was compressed, Dr. Carriere found them to be not more than fifty-five in the minute.

Here are the sentiments of our author as to the most common seat of the fœtal pulse.

"In the majority of cases the spot, which corresponds to the greatest intensity of the sound, is situated on a line between the umbilicus and the antero-superior spine of the ileum, or towards one of the iliac fossæ. In some cases the pulsations are found in the line of the *linea alba* between the pubis and the umbilicus;

and, in a few rare cases, they have been perceived quite towards the fundus of the uterus.

The extent over which they are audible is very various; being sometimes only two inches square or so, at other times comprising almost the whole of the lumbar and iliac regions of one side; most frequently it is a space which may be covered with the hand."

With respect to the relative frequency of the occurrence of the fœtal pulse in different parts of the hypogastrium, Dr. C. makes the following remarks:

"In eighty-five cases, where I have accurately noted down the exact spot at which the fœtal pulse was perceptible, I found it seventy-four times low down, eleven times high up, forty-five times on the left side, thirty-seven times on the right side, and three times in the middle or along the line of the *linea alba.* Forty-three times its maximum of intensity was low down and on the left side, thirty times on the right side and low down, three times on the left side and high up; and seven times on the right side and high up. I may remark that, in several of the cases where it was heard high up, the pregnancy had not passed beyond the sixth or seventh month."

Before closing our remarks, we shall now briefly allude to one or two other auscultatory phenomena, which are peculiar to pregnancy.

If the fœtus happens to move while the ear is applied over the hypogastrium, we perceive a dull sound accompanied by a pretty brisk shock, not unlike to that produced by striking against a piece of stretched cloth with a smooth, rounded and moderately firm body; sometimes it is a sort of undefinable *frottement*, or sensation of grazing sound, attended with a movement which may be felt and often also seen.

This last sound seems to be caused by the rubbing of one or several points of the fœtus against the walls of the uterus. Hence it is not uncommon to find, that, immediately after its occurrence, there is an obvious change in the position, intensity, and frequency of the fœtal pulse, and also in the force and tone of the blowing sound.

The impulse as well as the sound now described are often induced by pressing the extremity of the stethoscope firmly against any point of the hypogastrium. Naegele pretends that they may often be perceived, even before the woman is sensible of quickening; but this requires confirmation.—*L'Experience.*

ON THE HISTORY OF TUBERCULOUS MENINGITIS.

BY W. W. GERHARD, M.D.

In the last number of the *Medical Examiner* I published a translation of a portion of the article upon *Meningitis*, by M. Guersant, and the correspondence which afterwards was published in the *Archives*, relative to this subject. In itself, the matter was of little importance, but as the discovery of the true nature of the disease did not arise from accident, but was the direct consequence of a course of laborious investigation, I attach more importance to the matter than I should do under other circumstances.

In the article upon *Meningitis* by M. Guersant, the attempt is made to refer the discovery of the connexion between tubercles in the membranes of the brain and acute hydrocephalus, as far back as the time of Willis. This is about as reasonable as it would be to ascribe all possible researches to the older writers; the germ of everything that has been discovered, and probably of everything that will be discovered, is to be found in the ancient writers, but the mere obscure allusion does not constitute positive knowledge. In various writings, the description of tubercles in the brain and its membranes may be found, but they are invariably stated to be mere complications, and usually accidental ones of acute hydrocephalus. The accounts of writers are singularly uniform on this point, differing only in this respect, that one class represents the tuberculous diathesis as a predisposing cause of the disease, while another attributes the inflammation to the tubercles as the immediate exciting cause. Both of these suppositions are to a certain extent well founded, the former much more frequently than the latter.

The last, and by far the most complete account of the tuberculous granulations as occurring in acute hydrocephalus, is to be found in the memoir of Dance on this subject; the concluding part of this paper appeared in the *Archives* in 1830, a little more than two years before the commencement of the researches of Dr. Rufz and myself. M. Dance has given a correct though incomplete description of the tuberculous granulations in the pia mater, which are, as he states, a frequent cause of acute hydrocephalus. He describes the granulations as a cause of the disease, and in fact recognises the granulations themselves only in those cases in which they have attained a considerable size, and are evidently tuberculous. In the greater part of the cases which he describes, the disease was certainly the ordinary tuberculous meningitis, but as the tuberculous granulations were small, and, comparatively speaking, concealed by the effusion of serum and lymph, they must have escaped attention. M. Dance expressly stated that these granulations were merely a complication of the disease, and gives the following definition of acute hydrocephalus. It is "an inflammation seated primarily or secondarily in the cerebral ventricles, (in the internal membrane and the layer of subjacent cerebral substance,) giving rise to a more or less considerable serous effusion into these cavities, afterwards to a more or less extended softening of these walls, complicated frequently with meningitis, especially at the base of the brain, and producing a form of symptoms differing in general from those of all other cerebral diseases, which is owing in great part to its peculiar position, and, above all, to the *effusion* produced by it. On this account we believe that it is proper to preserve the term acute hydrocephalus." (*Archives*, vol. 22, p. 322.)

The tuberculous or scrofulous diathesis which M. Dance, in common with many others, noticed as complications of acute hydrocephalus, is, in fact, much more important than it seemed to him. The lymphatic temperament is the ultimate cause of the disease. According to the opinion of Mons. D., it acts in two ways. In the one, tubercles are already present in the membranes of the brain, and "foment," to use the expression of M. Dance, the inflammation. This is the variety of the disease in which the tuberculous character of the disease was so evident that there could be no doubt as to its real nature. The second variety is that in which the lymphatic temperament is the remote cause of the disorder; this is also generally admitted by many of the older writers, not merely a cause favouring the development of hydrocephalus.

I have confined my remarks to the works of M. Dance, as he is the only writer whose views approach nearly to our own, and by reference to his article it will be seen that this approximation is limited entirely to one thing—a more accurate anatomical description of tubercles when they are evident in the pia mater than was given by preceding writers. He has totally passed over the cases in which the tuberculous disease must have existed, although, as yet, in a forming state, and he has not hinted at the pathology of the most frequent form of the disease. This is that in which the tuberculous granulations are secreted by the same inflammatory process which constitutes the disease, the scrofulous temperament acting merely as a remote cause.

I will next inquire in what the observations of M. Rufz and myself differ from them. It is in this—that we state and prove, by rigid deductions, that the acute meningitis, or acute hydrocephalus, if the older term be preserved, is really a tuberculous disease, it is inflammatory in its direct action, and the tuberculous granulations are either formed already in the brain and followed by the acute inflammation, or they are secreted by the inflammatory process, the vessels throwing out at the same time lymph and tuberculous matter. This disease is by far the most frequent of the acute inflammatory disorders of the brain in children, especially from the age of two years to that of puberty, and we therefore separate this disease from other acute affections of the brain, laying stress upon the peculiar nature of the disease as connected with the tuberculous secretion, and looking upon the affection as one and the same, whether the inflammation attacks the membranes only, or extends to the substance of the brain, and whether there is or is not an effusion of serum into the ventricles. This view then of the pathology of the disease renders the term hydrocephalus obviously improper, and it was this which induced us to substitute that of tuberculous meningitis, which has since come into general use.

The new view of the disease was a necessary consequence of the improved condition of pathological knowledge, and of the methods of examining and of drawing deductions from facts, and it would necessarily have been taken by any one who had followed out the same course of research. That it was not adopted by others previously to the observations of M. Rufz and myself, is very obvious from the examination of the essay by M. Dance, which was published but little more than two years before the commencement of our researches. From the year 1830 to 1832, but little attention seemed directed to this subject, and no memoir in reference to it appeared: in the months of April and May of that year the cholera appeared at Paris; after its cessation, I ceased to follow the practice of the larger hospitals, and commenced a series of studies at the children's hospital at the beginning of June, 1832; after observing at the hospital for some weeks, I determined to continue my observations there for as long a period as practicable, and was constantly engaged in noting cases and studying the diseases of children until January, 1834, a period of eighteen months. Soon after the commencement of these researches, M. Rufz, who was attached to the service of M. Guersant, associated himself with me; to a certain extent, we were each studying the diseases in different wards of the hospital, but agreed to compare together our notes, and thus arrive at some conclusions more rapidly than we otherwise should do. The kindness of MM. Jadelet and Bouneau enabled me to pursue these observations during this period, and the position of Dr. Rufz at the hospital gave him the necessary facilities for observing the patients under the care of Drs. Guersant and Baudelocque. We were very soon struck with the tuberculous granulations which were so evident in some cases of meningitis; in other cases we did not at first venture to regard these granulations as tuberculous, but we commenced a careful examination of the other organs of the body, and ascertained that in every case of a certain class, there was direct evidence of a tuberculous disease. From this circumstance and the examination of the brain, we finally arrived at the conclusion that the disease was strictly tuberculous. The disease was not separated by us from ordinary cases of meningitis, solely because it was connected with a tuberculous deposit; it presented, in most cases, a train of symptoms which are to a great degree peculiar, and have an individual character; although the distinctive signs of the disorder were not discovered until the anatomical characters had been ascertained.

The first publication made by either of us, was by Dr. Rufz, in February, 1833, in which he described the granulations, but did not yet connect them with the tuberculous diseases. This connection was ascertained by us in the course of the spring or summer of the same year, when we had collected a sufficient number of observations to justify us, as we thought, in drawing some conclusions from them. All the observations which I had noted, agreed in giving the same result, beginning from June, 1832; the later cases of Dr. Rufz coincided perfectly with them, but those noted previously to the months of September or October, did not lead to any definite result, because they were too imperfect.

The earlier cases were incomplete, because Dr. Rufz did not then, at first, intend to continue his researches at the children's hospital beyond a short period, and therefore devoted less time to these notes than he afterwards gave to them. The first series of cases which demonstrated the nature of the disease were those which I had noted, but as the studies of both M. Rufz and myself were made afterwards in such a way as materially to assist our researches, the additions made to our knowledge of acute hydrocephalus, was regarded by us as the fruits of our joint researches.

The first publication which I made upon the subject was in the American Journal for February, 1834, in a paper written at Paris in September or October, 1833; the character of the disease is there stated. The second part of the memoir was published in May of the same year.

Dr. Rufz published his thesis on the same subject in 1835. These papers all related to acute hydrocephalus, or rather tuberculous meningitis, as it occurs in children, but in the year 1835, in the same journal, I published a memoir upon the acute hydrocephalus of adults, proving that it was identical with the tuberculous meningitis of children, and depended upon the same causes. This was the first memoir which proved that the disease was as distinctly characterized in adults as in children, and that the anatomical lesion was in both cases independent of the effusion of serum into the ventricles of the brain.

These remarks show that the disease was not described in such a manner as to give it a separate existence, until the researches of Dr. Rufz and myself. Since that period, many others, especially of the internes at the Children's Hospital, have written upon the same disease, which they agree in considering as a tuberculous meningitis. Amongst these later writers, is the late M. Constant, who began his researches at the Children's Hospital in January, 1833, after M. Rufz and myself had collected a large proportion of cases upon the same subject. His observations were made less elaborately than those which led us to these conclusions, chiefly during a short visit in each morning; they, however, confirmed our previous researches. M. Guersant was in error when he seems to intimate that the researches of M. Constant upon this subject were anterior to ours. He had no knowledge of the intimate connection between the tuberculous diseases and acute hydrocephalus until they were pointed out to him at the hospital. Of the occasional connection of tubercles of the membranes and meningitis he was no doubt aware, like all others who were acquainted with the previous publication upon this subject; but the knowledge of the true relations of the disease could scarcely have been attended without a course of laborious researches similar to those undertaken by us. The labour that we incurred is the chief reason why we attach importance to the subject.—*Medical Examiner, May* 6, 1840.

ON THE EMPLOYMENT OF A NEW VEGETABLE, MONESIA, IN MEDICINE.

BY DR. G. J. MARTIN ST. ANGE.

A vegetable substance, called *monesia*, has lately been imported from South America, in the form of hard thick cakes, weighing about five hundred grammes (9215 grains). These loaves, which are flattened, and have paper of a yellow colour adhering to them, are composed of the extract, prepared in the country, from the bark of a tree whose botanical name is not known. M. Bernard Derosne, the druggist who introduced it, informs me that some travellers call the monesia bark *goharem*, and others *buranhem*. But what is of more importance is, that the naturalists who have examined it think that the tree which furnishes it is a chrysophyllum.

The extract is of a deep brown, and very friable; when broken it looks like a well-roasted cacao nut. It is entirely soluble in water, and its taste, which is at first sugary like liquorice, soon becomes astringent, and leaves behind a well-marked and lasting acid taste, which is particularly felt in the tonsils.

The bark of the monesia is smooth and grayish, like that of the plane tree, with this difference, however, that it is much thicker, that its fracture is imbricated, and that its sweet taste forms a strong contrast with the bitterness of the thin laminæ which are detached from the plane.

The chemical analysis of the bark of the monesia, and of the imported extract, according to MM. Bernard Derosne and O'Henry, has demonstrated the presence of the following soluble principles:—1, Chlorophylle; 2, vegetable wax; 3, a fatty and crystallizable matter; 4, glycyrrhizine; 5, an acrid and somewhat bitter substance; 6, a little tannin; 7, an unexamined organic acid; 8, a red colouring matter, resembling that of cinchona; 9, phosphates of lime, with organic acids.

The pharmaceutical preparations which have been made with this substance are—1, an aqueous extract; 2, a syrup, containing thirty centigrammes (5½ grains) in the ounce; 3, a hydro-alcoholic tincture, containing two grammes (37 grains) per ounce; 4, chocolate, containing thirty centigrammes (5½ grains) in each cake weighing three decagrammes (7 drachms, 49 grains); 5, an ointment, containing an eighth part of its weight of extract; 6, monesine, being the acrid substance mentioned in the analysis.

The extract contains about eight per cent. of glycyrrhizine, and twenty per cent. of acrid matter.

The following accounts of monesia are already in existence:—1. A manuscript memoir, which is in the hands of the commissioners appointed by the Academy o Medicine. 2. A synoptical table giving the analysis, some pharmaceutical preparations, and the medicinal preparations of monesia. 3. A very minute summary of these two papers, entitled, "Account of Monesia." 4. An article inserted in the *Bulletin Therapeutique.*

I will now give a succinct account of the facts which have been published, before mentioning the results which I have obtained myself.

The medical cases in the synoptic table have been drawn up by several physicians in Paris; they give the nature of the disease, the sex, the profession, the age, and the constitution of the patient; the mode of treatment, the duration of the disease, the termination; and, lastly, the remarks suggested by each method of treatment.

M. Alquié, professor of internal pathology at the Val-de-Grâce, found—

1. That of forty-two soldiers attacked with diarrhœa of different degrees of severity, thirty-six were cured in twelve days; twenty-four by the extract of monesia given in pills, in the dose of from eighty centigrammes to a gramme (14½ to 18½ grains) a day; and twelve by the tincture, administered as a clyster, in the dose of eight grammes (147½ grains) in two hundred and fifty grammes (4607½ grains) of bran water.

2. That in two cases of menorrhagia, the extract and the tincture of monesia given internally soon calmed the pain, and stopped the uterine discharge.

3. That in four women attacked with profuse leucorrhœa, the extract of monesia given internally, and the diluted tincture injected into the vagina, were beneficial.

4. That in two cases of hæmoptysis, where bleeding, ligature of the limbs, and ordinary astringents, had been employed without advantage, the extract of monesia succeeded completely; and that several chronic cases of bronchorrhœa were benefited by the syrup of monesia, which was sometimes combined with opium.

M. Baron cites—1. A very remarkable case of chronic inflammation of the vagina, of a syphilitic kind. No advantage had attended the previous use of baths, local bleedings, emollient and astringent injections, the nitrate of silver; a year later the diluted supernitrate of mercury, sulphureous baths, leeches, and the repeated application of blisters and sinapisms, were equally useless. In spite of these remedies the discharge from the vagina became more abundant. Injections were then used containing thirty grammes (552 grains and 9-10ths) of the extract of monesia in a hundred and fifty grammes (2764½ grains) of water. In eight days the discharge was much diminished, and in three weeks the patient was cured. The discharge returned in a month, but again yielded to the same injections.

2. A case of leucorrhœa. The discharge was copious, of a yellowish-white

colour, and accompanied with pains in the groins and lumbar regions; baths, leeches, and injection of mallow water and laudanum, had produced no benefit. Injections of monesia, in the proportion of thirty grammes (522 grains and 9-10ths) to a hundred grammes (3317½ grains) of water, were employed once a day, and the patient was cured in a fortnight.

3. Several cases of diarrhœa, which resisted the means generally used, were cured by the extract of monesia given internally, and clysters containing the tincture, in different proportions.

M. Buchez has employed the extract of monesia, and has remarked that it delayed the progress of caries in the teeth, and that, when combined with opium, it often soothed the pain more effectually than the opium alone. He recommends the employment of the tincture to keep the gums in a healthy state.

M. Daynac speaks of the good effects he has obtained from the preparations of monesia (the syrup, lozenges, and paste) in several cases of the chronic catarrh of the old, in dyspeptic persons, and in the third stage of phthisis. He also cites remarkable cases of scrofulous engorgement, much benefited by the use of the tincture of monesia, in the dose of eight grammes (147½ grains) daily, continued for a greater or less time. Lastly, the extract of monesia in pills, in the dose of from sixty to ninety centigrammes (11 to 16½ grains), has been very serviceable in uterine discharges.

M. Laurand speaks of a well-marked case of scurvy which he cured with monesia. The patient had had frequent epistaxis, which had several times required the nostrils to be plugged. He was made to inspire acidulated water by the nostrils, containing thirty grammes (552 grains and 9-10ths) of the tincture to a pound of water. This stopped the hemorrhage; but when the same thing had been done with acidulated water not containing monesia, it had not succeeded. The patient also took from a gramme to a gramme and a half (18½ to 27¾ grains) internally every day. The same physician has ascertained the efficacy of monesia in a great variety of circumstances, particularly in gangrenous eschars on the sacrum.

M. Mance has employed the different preparations of monesia with success:—

1. In a man who, for six years, had had a large serpiginous ulcer in the bend of the groin, which had resisted every kind of treatment, and which rapidly improved under the use of monesia ointment.

2. In a great number of aged women labouring under diarrhœa, and in persons affected with chronic bronchitis.

M. Monod has furnished some very interesting cases; some of ulcers of the nose, and others of affections of the intestinal canal. The ulcers were dressed with the powdered extract and cured in a few days. In the other cases the extract given in pills to the amount of from sixty to a hundred and twenty centigrammes (11 to 22 grains) daily, was perfectly successful.

M. Payen, who has employed monesia in a great number of cases, has seen a patient in whom leucorrhœa was considerably increased by this medicine, administered two different times; the monesia was then tried as an injection, and the discharge, which had hitherto resisted every remedy, disappeared, and did not return. This same practitioner recites two cases of uterine hemorrhage, where the patients were obliged to keep their bed for a fortnight at each menstrual period, and in which the monesia brought back the discharge to its healthy standard. Lastly, M. Payen has succeeded in cicatrizing an ulcer in the lower jaw, which, for ten months, had resisted every kind of treatment, both internal and external; and in healing ulcerated chilblains, by means of the ointment and the powdered extract of monesia.

Thus we see that monesia has been employed both externally and internally. It has been frequently administered during the chronic stage of bronchitis, usually alone, but sometimes combined with opium, and in the greatest number of cases it has seemed to act advantageously upon the disease, the expectoration and respiration being rendered more easy.

In many cases where pulmonary hæmorrhage was prolonged, having resisted various and generally efficacious remedies, the extract of monesia has stopped the spitting of blood.

In weakness of the stomach monesia has a very favourable influence on digestion, and secondarily on nutrition. This medicine has also been very beneficial in chronic enteritis; it has chiefly succeeded against diarrhœa, from whatever cause it arose.

The efficacy of monesia taken internally has been less marked in leucorrhœa than in diarrhœa; yet it had been useful in the majority of patients who have taken it; but injections have been more advantageous.

In every case of uterine hemorrhage where monesia has been given, it has succeeded in moderating and suppressing the discharge more readily than the other remedies which had been previously used.

Monesia has also been of great advantage in scorbutic and scrofulous affections, and has always benefited ulcers of a bad character, whether the ointment, or the pure extract powdered, or the acrid substance contained in it, has been employed.

Such is the compendium of the cases hitherto published, with the exception of four by M. Forget, which are the basis of the article that he has published in the *Bulletin Thérapeutique*, and which, as he says himself, neither tell for nor against monesia.

We may say, therefore, generally, that monesia shows its maximum of power in diseases of the digestive organs, in hæmoptysis, uterine hemorrhage, and ulcers of the skin, or of the mucous membranes, at their origin. A remarkable point in this remedy is, that although it is gifted with energetic powers, and has acted upon the tonsils or upon ulcerations as an active stimulant, it has never irritated the stomach as tonics, properly so called, often do. In order to form a due estimnte of its relative activity, we must not forget that it has always been employed after the exhibition of other remedies.

I now come to my own cases, the general results of which may be stated as follows:—

Monesia, when exhibited internally, in the dose of from 75 to 125 centigrammes (14 to 23 grains) of the extract daily, for eight or ten days, whether in the form of pill, tincture, or syrup, has an immediate effect upon the digestive passages, and quickens the action of the stomach in a very remarkable manner. If the dose of the remedy is pushed to four grammes (74 grains) of the extract daily, for fifteen or twenty days, the appetite increases, but the patients sometimes experience a feeling of heat in the epigastrium:* tenesmus and obstinate constipation may also come on; hence its action upon the digestive tube should be moderated by diminishing the dose according to the effect produced, and administering emollient or laxative clysters, as may be required.

Monesia ointment may be employed externally upon sores, in every case, but with more or less success, according to circumstances: thus I have seen it succeed in large and excessively painful ulcers, arising from the action of blisters, in sores produced by burns, in varicose ulcers and old wounds: in a word, whenever the sore is painful, and depends on a merely local affection. When this is not the case, and the ulcer is kept up by syphilis, scrofula, scurvy, or cancer, it is impossible to effect a permanent cure by merely applying the monesia ointment, washing the sores with the tincture, or sprinkling them with the extract or acrid principle contained in it. Yet by employing these different preparations in a proper manner, we may hope to modify the sores, and even to cure them for a time. Generally speaking, the ointment, when applied to a sore, calms the local pain; the tincture thus used, produces a sensation of heat, which ceases immediately; a powdered extract more or less excites the sore, and the acrid principle in powder, when well prepared, has a special activity greater than caustic: hence it is a powerful remedy against fungous or atonic ulcers of a bad appearance; but as soon as these sores become painful, and especially when they are covered with a whitish pellicle, the use of the acrid principle should be discontinued; for it is usually this pellicle which, by preserving the surface of the sore from contact with the air, and perhaps by becoming partly organized, produces cicatrization.

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* Showing that it *does* irritate the stomach, contrary to the assertion made a few lines before.—*Translator.*

I have said expressly, that it is impossible to obtain a lasting cure of syphilitic or cancerous sores by the mere external use of this remedy; in such cases, therefore, we must have recourse to a specific treatment capable of acting on the system. I have found that in order to effect the cure of scrofulous ulcers, the monesia must be employed internally, for five-and-twenty or forty days, and even longer, according to the case; and this in large doses, such as four or five grammes (74 or 92 grains) of the extract daily, in the form of pill, tincture, or syrup. In this way I have succeeded in curing or benefiting several scrofulous patients. Here follow two remarkable examples:

Case I.—A young man of 17, a printer, born of very healthy parents, came to see me in February, 1839, to have the little finger of his left hand amputated. On looking at the diseased parts, I saw it was a scrofulous affection of only eight months' standing. The first phalanx was much swelled, the soft parts covering it were livid, and there were three fistulous openings in the skin; two corresponding to the dorsal part of the phalanx, and the third to its palmar surface. They were surrounded with callous vegetations of a brownish colour, and communicated with one another by means of subcutaneous fistulous passages. By introducing a blunt probe into the sores, it was easy to reach the bone of the finger, and to ascertain the detachment of the skin and the caries of a portion of the phalanx. The suppuration was serous, yellowish, of a faint odour, and contained some flakes of a substance which seemed carious. Strong pressure of the diseased tissues occasioned hardly any pain. On the back of the hand and the left elbow there was also a swelling of the skin and of the subjacent parts, looking like the little finger. The swelling and livid patch extended from the elbow* to the inside of the bend of the arm; its centre was ulcerated, and covered with a thick crust, which, according to the patient's report, was renewed every two or three days.

I began by sprinkling the acrid principle of monesia on the small sores of the finger. After some days' dressing, the swelling of the soft parts began to diminish, and at the end of about twenty days the fistulous openings entirely closed. The diseased tissues at the back of the hand then ulcerated, and the acrid principle being employed as above-mentioned, in a few days a cure was effected. There remained only the sore upon the elbow, which had been purposely dressed with cerate. It continued to suppurate, and to be covered from time to time with a fresh crust.

The patient was in this state when I presented him to Dr. Bailly, who had been commissioned by the Academy to report on the effects of monesia. The affection appeared to him to be evidently scrofulous, and the result obtained to be satisfactory. The disease, however, soon re-appeared; the fistula of the finger began to suppurate again; there was swelling and livid redness of the soft parts, with engorgement and induration of the back of the hand; the sore on the elbow became larger and deeper. The patient now entered the hospital of St. Louis, where he had internal medicines as well as fumigations, sulphurous baths, &c. In a month he came out, with the diseased parts in a worse state than ever. I now prescribed the internal use of monesia—namely, twelve pills, each containing 20 centigrammes ($3\frac{1}{2}$ grains), and two spoonfuls of the tincture. The sores were dressed with common cerate. Under this treatment the patient was cured in thirty-five days. Nevertheless he continued to take five pills a-day till the fiftieth day.

Since July, the diseased parts have been constantly improving, and a lasting cure may be hoped for. It is right to state, that in this case the preparations of monesia did not cause tenesmus or constipation, although the patient did not employ any purgative; the only thing he complained of was too much appetite.

Case II.—M. —, æt. 40, who had always enjoyed perfect health, came to France two years ago, and perceived, in the month of April, 1839, that he had an indolent tumour in the left inguinal region. Several physicians of the capital were consulted, and they ascertained that it was a swelling of one of the superficial lymphatic glands, situated in the bend of the groin. On the 21st of the same month, I was also consulted by the patient. The diagnosis was not difficult, but the point was to know how the tumour would turn out. My prognosis was favourable, like that of all the other physicians, excepting M. Lisfranc, who thought that the swelling of the gland, though slight, depended on a general affection. On the 2d of May the groin continued to swell, and from that time all the other glands of that part, as well as of the left iliac fossa, swelled considerably; and this was soon the case with those of the opposite side. Twenty pages would scarcely suffice to tell all that was prescribed by the physicians, and patiently submitted to by M. ——. No remedy was of any use, except for a short time; and I therefore proposed monesia, in the dose of 150 centigrammes (28 grains) of the extract a-day. The patient at this time was extremely weak, ate but little, and was feverish every day. In a week digestion had improved; there was a sensible increase of strength, and no fever. The sores were dressed with the monesia ointment. In consequence of these results, I tried to augment the dose of the medicine, and, besides the extract, the patient took two spoonfuls of the tincture, and from four to six of syrup in an infusion of hops. As to the sores, which obviously grew better, the same dressing was continued morning and evening, and everything promised a speedy cure, when constipation and a most painful tenesmus came on, which obliged us to suspend the treatment. In a few days the sores became larger and larger, fungous and of a bad appearance.

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* The original here has *cou*, but this must be a misprint for *coude.—Translator.*

The dressing was then changed—extract of monesia in powder and the tincture being employed; but these remedies were almost as useless as a host of others which were successively tried. It then seemed clear to me that the internal use of monesia had alone produced the improvement, and its use was accordingly resumed, taking care to make laxatives a part of the treatment. For this purpose the patient had two glasses of Enghien water every morning, and an emollient clyster. In a fortnight, the good effects of the monesia were again perceived; and this was the more to be attributed to its internal use, as the dressing had been performed with simple cerate.

At present, the swelled glands of the groin are softening and disappearing, without any suppuration. Those of the iliac fossa are diminishing in size; the sores have cicatrized, and the disease far from attacking the lymphatic glands of the other parts of the body, as is commonly the case, is localized, and is much lessened. The patient eats with a good appetite, sleeps well, and takes exercise three hours a day, which makes us hope for a fortunate termination of the disease.

Another result which I have obtained from the use of monesia, and which has been observed by other practitioners likewise, is its action upon the uterus in cases of metrorrhagia. I will give two instances:—

Case III.—Madame ——, of a plethoric constitution, was attacked, after the catamenial period, with a flooding, which obliged her to keep her bed and seek for advice. After having employed cold drinks, ligatures on the limbs, cupping-glasses, and other revulsives, without success, I made the patient take five monesia pills, each containing 20 centigrammes (3 grains and 3-5ths). The next morning she was very weak; the skin burning, the pulse scarcely perceptible, the face pale, and the eyes sunken. She had shivering fits from time to time, a sensation of weight in the loins, transient colic pains, and headache, with sleepiness; and what was more, the hemorrhage did not diminish. I then prescribed twelve pills of extract of monesia to be taken every hour. The discharge stopped the same day, and never returned.

Case IV.—Madame ——, aged 20, who had been married six months, had frequent pains in the loins; and in a few days a flooding came on, which obliged her to keep her bed. The hemorrhage increased, as soon as the patient got up; there was no pain in the abdomen, and no constipation; the pulse was weak and irregular, and from 76 to 80 in a minute. Revulsives, cold and acidulated drinks, clysters of cold water, and compresses dipped in iced water and applied to the thighs, had no effect. The ergot of rye was then employed, but as this excited vomiting, it was discontinued, and pills of the extract of monesia were ordered to be taken every hour, until an effect was produced. After fourteen pills the hemorrhage ceased. The patient then took cold broth at intervals, and in spite of the lightness of this food, the discharge returned in the evening with violence, and again ceased after the exhibition of ten monesia pills.

On the following day, the dose of the medicine was diminished to 75 centigrammes (14 grains) and in six days the patient was quite well.

Quite lately I employed the acrid principle in powder, in the dose of 15 centigrammes (2 grains and 7-10ths), taken in a prune; it was to stop a uterine hemorrhage, which had suddenly come on during the night; the discharge ceased the same day. But as this case stands alone, additional facts are necessary to prove the power of the acrid principle under such circumstances. In every case, monesia acts in a remarkable manner upon the uterus, when it is not in its natural state. This new medicine may be used in different ways, and it acts on different organs, particularly when they require to be strengthened without too much excitement.

This is confirmed by the following passage from M. Buchez:—

"I have tried the extract of monesia," says this skilful practitioner, "in different affections of the mouth, particularly in inflammation of the gums, and uniformly with advantage. Its application produced a good effect, by almost instantaneously soothing the pain, which often accompanies inflammation. This mode of treatment I have found very successful in the scorbutic swelling of diseased gums, and it has removed affections which had previously resisted other remedies. When caries of the teeth is attended with pain, the application of monesia is sure to remove it in a few moments."

When all the ascertained facts are compared together, one is struck by the very peculiar tonic action of monesia on every organ. As its powers have been tried in more than four hundred cases, we may be allowed to consider monesia as a very useful remedy, under several circumstances, particularly scrofulous affections and uterine hemorrhage. Hence the art of healing was made a real acquisition; nor is it to be imagined that this tonic has any analogy with those already known,* quite lately a tannin ointment, and monesia ointment were tried and compared with each other, and the advantage was on the side of the latter. Moreover, it is clear that every medicine acts in its own way, and that there cannot be two whose special effects are the same. Well-informed practitioners know that one purgative cannot be indifferently substituted for another; that every narcotic has not, in the same degree, the power of soothing and producing sleep; that the action of the various tonics is also very different; and that the general effects of medicines are like the difference of faces; many resemble each other at the first glance, but none can sustain an exact comparison.—*Gazette Medicale.*

PHYSIOLOGY.

EXPERIMENTS UPON THE MOTOR AND SENSITIVE ROOTS OF THE NERVES.

BY DR. KRONENBERG, OF MOSCOW.

THESE experiments were, in part, suggested by those of M. Magendie, which we published in our number for the 3d of August, and from which it was deduced, that the anterior roots of the spinal cord acquire a certain slight degree of sensibility by means of a circle of sensitive nervous influence, which passes from the posterior columns through the posterior roots, the ganglion and the anterior roots, to the anterior columns of the spinal cord. Other somewhat similar experiments showed that the facial nerve acquired the share of sensibility which a portion of it possesses from its communications with filaments of the fifth pair.

The experiments which Dr. Kronenberg made were as follows:—the facial, before its union with the fifth pair, was more or less sensible; but after it was divided between this union and the brain, irritation of the distal portion, which was connected with the anastomosis, produced pain, though not constantly. He then exposed the lumbar region of the spinal cord, and found the motor roots sensitive, though much less so than the posterior were. But, that the sensibility of the motor roots did not depend on filaments coming to them directly from the spinal cord, but on the sensitive roots, appeared from the following experiments:—If the motor roots were irritated, while the sensitive were uninjured, pain was produced; but if the latter were divided, then the former lost their sensibility. After dividing the anterior roots while the posterior remained uninjured, the distal portion of the former was always sensitive; but the proximal (that still connected with the spine) never was. It was the same with the anterior portions of the spinal cord, which was painful on irritation only when the posterior roots were not destroyed.

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* There is some mistake in the original here, "que l'on ne croie pas que ce tonique ait quelque analogie avec ceux deja connus;" for granting that its effects are not identical with those of any other tonic, there is a well-marked analogy.—*Translator.*

Lastly, to render the subject still more clear, and to acquire a knowledge of the course of the filaments bestowing this sensibility on the anterior roots, the following experiment was made:—A small incision, about half a line deep, was made at the point of connexion of the uninjured roots, so as to enlarge the angle of union, and at once all the phenomena above mentioned were put an end to; the anterior root, with the adjacent portion of the spinal cord, became insensible, and, after dividing it, both its portions were equally without sensation. This simple and easy experiment proves to a certainty, first, that a part of the fibres of the sensitive root goes to the point of union of the two roots, and thence returns through the motor root into the anterior portion of the cord; and, secondly, that the turning back of the fibres takes place close to the union of the two roots. —*Muller's Archiv. Heft.* v. 1839.

ON THE SYMPATHY BETWEEN THE CEREBELLUM AND THE TESTES.

BY DR. J. BUDGE, OF ALTENKIRCHEN.

It is well known that Gall places the organ of the sexual appetite in the cerebellum; and the remarks of subsequent physicians have often been directed to the subject, though without having yet arrived at any definite result. For even if one collects all the known cases of diseases of the cerebellum, as Burdach has done, one finds, indeed, that an actual affection of the sexual organs has occurred in no small number of such cases, but that in a great number, nay, even in the majority, none such has existed. In like manner cases have occurred to every observant physician which are favourable to such a connection of the two organs; and, again, others which, though in other respects similar, afford no such evidence. A more certain and incontrovertible proof is wanted; and I have at length succeeded, by experiments on numerous animals, in demonstrating this influence of the one organ upon the other, in the most simple, distinct, and certain manner.

For these experiments old cats are the best animals that can be employed; and they may be made upon them either during life, or still better immediately after death. The experiments were repeated so often, that there could not be the least doubt in regard to their result; and though, in some animals, the phenomena were far more marked and distinct than in others, yet in all they were so similar, that the relation of one will sufficiently illustrate the whole.

In a twelve year old male-cat, who had been killed by a wound of his heart, the whole of the skull was removed as quickly as possible, and then the abdominal cavity opened, and both testes, with their spermatic cords and vasa deferentia, exposed; all of which occupied but a few minutes. Not the slightest motion was observed in the testicles. I now stimulated the cerebellum with the point of the knife; and I had done so for scarcely so much as three seconds, when one testicle raised itself up, and moved from the spermatic cord on which it had lain, so as to form nearly a right angle with it. At the same time it became more and more tense. The more I irritated the cerebellum, the more the testicle moved. I stimulated hither and thither, but the two testicles were never moved at the same time. I soon discovered the cause of this remarkable fact.

When I stimulated the right lobes of the cerebellum, and the right half of the commissure, the left testicle always moved; when, on the other hand, I stimulated the left lobes, and the left half of the commissure, then as regularly the right testicle rose up. I had thus the movement of the testes entirely under my control, so that I could make one or other move as I wished; and I continued the experiment for full half an hour.

The cerebellum is, then, the part at which the nerves of the testes have their terminal point; the nerves also cross each other in the brain as those of all the rest of the body do; and they must lie tolerably superficially in it, because a deep irritation does not succeed in producing the motion of the testes. It seems probable to me, that the union of the nerves takes place in the region of the first cervical vertebra, because stimulus of this part of the cord is very often accompanied by erection and discharge of semen, as in the hanged, &c.

This simple observation is of the greatest importance in many physiological and pathological phenomena. Thus from this connection, the hitherto inexplicable sympathy between the testicles and parotid gland is accounted for by nervous communication. Perhaps also the relation of the testes to the growth of the beard is explained by this connection, since the trigeminus nerve may be traced in its ultimate roots to the part where the union of the nerves of the male sexual organs may be conceived to take place; and the nervous trigeminus is distributed in the face, and, most probably, contains organic fibres, which are concerned in the growth of the hair.

It cannot be thought remarkable, that in so many diseases of the cerebellum, the sexual organs should still not suffer. For, in the first place, the whole cerebellum is certainly not to be regarded as the central point of the sexual nerves, but only a part of it; and if this part does not suffer, the sexual organs will remain healthy; and, in the second place, one would be wrong in thinking that every disease of the cerebellum must act in such a manner on those organs as to procure a distinctly observable disease. One may suppose that if the part where the nerves meet were compressed, impotence would probably result; but how many men are impotent without even knowing it.—*Muller's Archiv. Heft.* v. 1840.

EFFECTS OF ALCOHOLIC DRINKS ON MOTHERS AND INFANTS.

To the Editor of the Lancet.

Sir:—I have resided in Ramsgate during nearly eight years, and have in that time attended 1,127 midwifery cases, and have invariably found that, other circumstances being equal, those mothers who never tasted malt-liquors, wine, or spirits, during and subsequent to the period of labour, have had the easiest labours, the earliest recoveries, and the best health afterwards. Nay, more, I know several mothers who never could nurse their children, under the ale and porter system, without suffering greatly in health, but who, after relinquishing the use of those baneful stimulants, have experienced a perfect freedom from disorder during the period of lactation. Nor was this all. The offspring of such mothers have enjoyed an unprecedented immunity from disease also.

That some females do not feel their health disordered whilst using those drinks, I am ready to admit, and that their tender infants, also, may escape, for a time with impunity, is certain, but that both mother and child suffer more or less, in proportion to the quantity of these drinks taken by the mother, at a remote period, if not at the immediate time, is to me as certain as that I am now writing. Nor do I see how it can be otherwise, according to the laws which govern the animal economy. Let any man in extensive practice, any man who is accustomed to reflect, review the state of health of the great majority of ale and porter drinking mothers during and after the period of child-bearing, and then say whether their health is what it should be had they lived according to nature's dictates. In affirming that it is not, the mass of disease that presents itself amongst this, the better part of created beings, strongly confirms the assertion. I have under my own eye many mothers who are experiencing the ill effects of the moderate (not the immoderate) use of these falsely-denominated "strengthening" beverages, in the form of liver and stomach complaints, skin diseases, asthma, dropsy, &c., and every impartial and observant member of the profession must have noticed similar results. Thousands of children are annually cut off by convulsions, from the effects of these beverages, acting through the mother.

Strong drinks excite a feverish state of the body, and create an artificial thirst, —a thirst which is not expressive of any real want of the constitution, but a certain proof that the want does not exist. The greater the craving for them, under these circumstances, the more certain we may be that they are not needed, and that they will cause positive mischief to both mother and child. The constitutions of both are stimulated beyond what nature ever intended that they should be. The laws which govern the animal economy are positively infringed, and it is impossible that either mother or child can escape the penalty of that infringement. Both will suffer to a certainty in some shape or other; if not immediately, at a future period. I am, sir, your very obedient servant,

A. Courtenay, Surg., R.N.

Ramsgate, Jan. 18*th* 1840.

TREATMENT OF CHLOROSIS WITH THE LACTATE OF IRON.

The lactate of iron has recently been introduced into practice by MM. Gelis and Conté, internes at La Charité. Reflecting on the difficulty of administering the preparations of iron, these gentlemen recommend the use of the lactate in lozenges. This preparation is very soluble, and may be administered in much smaller doses than other preparations of iron—the subcarbonate for example. M. Bouillaud never gives more than 20 grains in the 24 hours; MM. Andral and Fouquier seldom exceed 12 grains.

The following cases show the effects of lactate of iron in cases of chlorosis:—

Case I.—M. Andral.

Josephine Leiter, 17 years of age, admitted on the 23d November last. Seven months ago she was much frightened, and since then her health has rapidly declined. The menstrual discharge became irregular, and of small quantity; appetite lost; the least exercise produced palpitation of the heart and blowing respiration; *bruit de diable* in the carotids..

Twenty days after admission she commenced taking the lactate of iron in doses of six grains a day. On the 10th day her appetite was much improved; the dose was increased gradually to 12 grains. On the 6th of January the catamenia appeared; they were abundant, and the blood was of a good colour. Since then she rapidly improved.

Case II.—Amenorrhœa.—Chlorosis. M. Fouquier.

Caroline Blessodser, 21 years of age, enjoying good health, had always menstruated regularly up to the age of 19, when the catamenia were suddenly arrested by her imprudence in plunging the hands in cold water during the flux. The suppression persisted for 18 months, and was accompanied by all the symptoms of chlorosis. On the 19th month the menses reappeared under the use of iron and other emmenagogues, but were soon suppressed again, and remained so for four months.

Present State.—Face puffed; appetite lost; bowels constipated; palpitation of the heart on the least exercise; headache; vertigo; pain and œdema of the lower extremities; *bruit de souffle* in the heart; slight fever.

Nov. 22 (the day after admission). Six grains of lactate of iron.
24. Appetite improved.
26. Headache and fever have disappeared. Eight grains.
29. Appearance of the menses. Ten grains.
30. Neuralgia of the supra-orbital nerve. Twelve grains.
Dec. 4. Appetite good; no palpitation; no vertigo, &c.
6. Discharged quite well.

CASE III.—CHLOROSIS AND AMENORRHŒA AFTER DELIVERY.

A lady, 22 years of age, was delivered in November, 1839. The labour was followed by phlebitis of the lower extremities and well-marked chlorotic symptoms; paleness and tumefaction of the face; palpitations and blowing on the least exercise; gastralgia; suppression of the menses, which had, hitherto, been regular. During the summer the patient went to the country, and became much better; but, on her return to Paris, the symptoms of chlorosis recurred with increased force.

Dec. 1. Lactate of iron, in the dose of eight grains every day. Three days afterwards increased appetite; in eight days loss of the habitual paleness; in a fortnight the patient was able to take a long walk; and about the beginning of January, 1840, the chlorotic symptoms had completely disappeared. On the 10th, fourteen months after delivery, the catamenia reappeared for the first time. —*French Lancet*, Jan. 23, 1840.

CASE OF A WOMAN PREGNANT WITH FIVE CHILDREN.

Dr. EVORY KENNEDY produced five fœtuses, with their involucra, the product of a single abortion, at the meeting of the Dublin Pathological Society, held on the 14th instant. The patient had been attended by his late assistant, Doctor Thwaites, and pupils of the hospital, and the facts of her case were accurately noted, so that deception was impossible. The specimen produced, Dr. Kennedy stated to be the multiparient conception of a female, who aborted when, as she stated, she was three months' gone with child. The case was one in which there appeared to be three distinct ova; two of these were twins, the third was single, so that five fœtuses co-existed in utero. On examining the preparation, Dr. Kennedy remarked, that, closely viewed, it would be found that those on each side differed from the centre one. Each of the former possessed a common placenta, and membranes common to both, with an intervening septum; but the central one is distinct and perfect in itself, having its own placenta and membranes. Some persons have been disposed to question the occurrence of these multiparous births; and indeed it must be acknowledged that the popular opinions, and even recorded cases, on the subject, are sufficiently extravagant; as for instance, the Countess of Hannenberg's case, in which it was stated that 365 children were produced at a birth. But without taxing our credulity in these cases too far, we have undoubtedly a few well authenticated instances on record, in which women have given birth to five children at a time. One of these, that of Guiseppa Califani, occurred lately at Naples; and we have the details of another, which took place in Franklin county, in America, about twelve years ago, recorded by Doctor Paddock. There is also said to be a similar preparation in the British Museum. It is extremely curious and interesting, as connected with the history of multiparous births, that in this respect Ireland preponderates over all other nations, and that the Irish females are unequalled to the ratio of their fecundity. The proportion of twin cases in Dublin is one in sixty; in America (where, it is to be recollected, there is a large number of Irish emigrants) the proportion is one in seventy-five; in London it is one in ninety-one; while in France, "*longo intervallo*," it is one in 140. In proof of the rarity of five twin-children, Doctor Kennedy further remarked, that out of 140,000 cases recorded in the Lying-in-Hospital of Dublin, there is no instance of five children at a birth. There is one case of four, but none of five. It is a curious fact, that in the American case the mother was an Irish woman, and had recently arrived in America. It may, perhaps, be considered equally curious that in the case detailed by Doctor Kennedy the father was a man of small stature, æt. about thirty, without any remarkable personal development, and by trade a *tailor!* The woman, the subject of the present memoir, whose name is Sarah Hickey, is twenty-eight years of age. She was married about two years ago, and within nine months after brought forth her first child. This conception was uniparient. After the lapse of six months she again conceived of the fœtuses alluded to; and observed that during the pregnancy she increased very rapidly in size, and suffered constantly from bearing down, which rendered walking or standing almost impossible. She had constant sickness of stomach—a symptom generally looked on as an evidence of compound pregnancy. As to the abortion, it would appear to have been produced by inordinate distention of the uterus for its period, which, in its turn, led to parturient efforts, as the ova presented no morbid appearance. The fœtuses, which are all males, do not appear to exceed the development usually observed about the second month; and as Hickey menstruated on the 24th May, and miscarried on the 26th August, it is more than probable she over calculated the duration of her pregnancy. This preparation is in Doctor Kennedy's museum, in the Dublin Lying-in Hospital.—*Dub. Jour.*, *Jan.* 1840.

DISCUSSION AT THE FRENCH ROYAL ACADEMY OF MEDICINE RESPECTING THE PHRENOLOGICAL ORGAN OF LANGUAGE.*

M. Bouillaud, at a recent sitting of the Royal Academy of Medicine, introduced the subject of the seat or locality of the Phrenological Organ of Language, and narrated several cases in confirmation of Gall and Spurzheim's opinion, that it is placed in that portion of the anterior lobes which rests on the roof of the orbits.

In a previous memoir, which M. Bouillaud communicated nearly 15 years ago, he had collected the details of 64 cases, to show that this organ is seated in the anterior lobes of the cerebrum, as first announced by Gall and confirmed by the observations of Spurzheim. On the present occasion, he added the reports of thirteen other cases, which have come under his notice, and all of which, he thinks, tend to prove the correctness of the phrenological doctrine. He admits that several instances, apparently opposed to this doctrine, have been published by MM. Cruveilhier, Andral, Lallemand, and others; but he insists that the details of these cases have been always unsatisfactory, and never sufficiently complete for the purposes of an absolute decision.

M. Rochoux was the first to reply to the observations of M. Bouillaud.

"Numerous facts," said he, "have abundantly proved that the faculty or power of speech has remained intact, when the anterior lobes of the brain have been seriously injured or diseased; and, on the other hand, that this faculty has been lost, when no discoverable lesion of these parts has been afterwards found. I am ready to admit that a number of cases may be adduced, which seem at first sight to be directly favourable to M. Bouillaud's conclusions; but then there are a great number of exceptional cases, which are quite opposed to them; and we must ever bear in mind that one absolutely authentic negative case is sufficient to upset the authority of a hundred seemingly affirmative cases. In that form of paralysis, which occurs in the insane, the loss, or at least, a lesion of the speech is usually one of the earliest symptoms. It is especially on the muscles of the tongue that the paralysis is at first directed; and yet in such cases we have no reason to believe that the anterior lobes are more affected than the other parts of the brain;† as the morbid change seems rather to involve the whole surface of the organ."

M. Cruveilhier followed M. Rochoux. He maintained that lesions of speech are not more necessarily or more frequently connected with injuries of one than of any other part of the brain; and that they are as common after injuries and diseases of the posterior as of the anterior lobes.

He repeated the assertion of M. Rochoux, that this faculty may be lost, although the anterior lobes are intact; and again, that these lobes may be deeply diseased, the faculty remaining entire.

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* Medical Chirurgical Review, April, 1840.

† This objection is certainly not a valid one, and, when examined attentively, will be found to arise from a mistaken view of the subject. The phrenological faculty of language is certainly not the same as the faculty of speech or articulation. One is, in truth, the memory of words; the other is the mere power of expressing or enouncing them.

The faculty of language may be perfect, although the speech may be more or less injured; just in the same manner as a musical performer's talents may remain perfect, although they can no longer be displayed, in consequence of some injury to his instrument.

"It is quite right," continued he, "that we should remember that there are three distinct elements, so to speak, involved in the phrenological faculty of language:—1, there is the memory or recollection of things; 2, there is the memory of words; and 3, lastly, there is the power of articulating sounds, or, in other words, of speech.

"When the memory of things is impaired—which often happens after external injuries of the head, malignant fevers, &c.—the patient is usually in a state of imbecility, all the intellectual faculties being more or less stupefied or perverted: this is more frequent than the isolated loss of the memory of words. Words are most intimately, or rather necessarily associated with ideas. We can scarcely have an idea without having some corresponding sign or symbol of it; but as this union or association is altogether conventional, it may not exist; and thus the outward symbol may be lost, or awanting to the idea. . . . . Again, the memory of ideas and of words may be preserved, while the movements of the tongue requisite for speech, as well as for taste and deglutition, may be lost.

"The patient may comprehend the question put to him; he may remember what he has seen and heard; but perhaps he cannot articulate a syllable. Every medical man is acquainted with such cases; in one, which recently occurred in my practice, a woman had quite lost the power of articulating the name of her husband, although she retained a perfect recollection not only of things, but also of all other words.

"As to the seat or locality of the cerebral lesion in such cases, I admit that it is frequently in the anterior cerebral lobes; but then this coincidence is by no means uniform and constant, as is alleged by M. Bouillaud. I could adduce numerous cases of lesion of these lobes, in which there was no decided affection of the speech. As to the cases in which the anterior lobes have been found deeply disorganized, or even altogether wanting, several have occurred in my practice; but M. Bouillaud will perhaps say that such cases are by no means so conclusive as at first sight they may appear to be, since the morbid change was limited to one hemisphere of the brain. If he insists upon the force of this objection, then we must avail ourselves of it in reference to the cases which M. Bouillaud himself has reported in illustration of his views, where a lesion of one only of the anterior lobes was accompanied with a lesion of the alleged function. I have related in my Pathological Anatomy the case of an idiot, in whom both anterior lobes of the brain were wanting, and who yet exhibited no alteration in the faculty of language.*

"I could easily prove that almost every cerebral lesion, of whatever part of the organ, may induce an alteration in the faculty of speech. Such an alteration is, it is well known, one of the earliest signs or symptoms of hemiplegia.

"In a case of this sort recently under my care, where the speech was entirely lost, but the intellect remained clear and unaffected, the *tuber annulare* only was found, upon dissection, to be diseased, the anterior lobe being perfectly sound. (Does not this very case militate against M. Cruveilhier's and in favour of M. Bouillaud's views? The memory of sounds and words remained, and the anterior lobes were healthy; the power of speech only was gone, and the *tuber annulare* situated above the origin of the hypoglossal nerves was diseased.)"

In conclusion, Mr. Cruveilhier infers:—

1. That it has not been shown that the faculty of language has a special seat in any particular part of the cerebral mass, and still less that the seat is in the anterior lobes.
2. That every deep and serious morbid change of the brain, whatever be the part affected, is usually accompanied with some lesion of speech.
3. That the plurality of cerebral organs cannot be demonstrated.

M. Blandin followed; he related the following case in confirmation of the phrenological doctrine.

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* There is surely self-contradiction here. Does an idiot ever possess a correct memory of things and of words, as well as the power of articulation—the three elements which M. Cruveilhier himself admits to be comprised in the faculty of language?

A child received a musket-ball in the orbit; after destroying the eye it traversed the exterior orbitar plate, and made its escape just in front of the ear. This child, whom I saw at the Hôtel Dieu several weeks after the accident, had lost all power of articulation. During its recovery, it was necessary to teach and accustom it to pronounce words. When it left the hospital, it was able to articulate its own name, and a few other words. Now in this case is it not highly probable that the superior orbitar plate was fractured, and that an inflammatory process had extended to the point of the anterior lobe which rests upon it?

As to the objected cases, in which the lesion of other parts of the brain seemed to occasion a loss or some disturbance of speech, they prove nothing in my opinion against the opinion of M. Bouillaud; for the corpus striatum and the thalami optici, for example, contribute by their irradiations to the formation of the anterior lobes; and the same may perhaps be said of the fibres of the upper part of the medulla spinalis, which are in truth the primary roots of these parts.

On the other hand, even if it can be shown that in some cases, where there has been disease of the anterior lobes, the speech has not suffered, it may possibly be that the immediate seat *du principe coordinateur* was not involved in the lesion. M. Bouillaud has not affirmed that the whole of the anterior lobe presides over the faculty of language; a small portion of it only being, according to the phrenological views, the seat of this power.

M. Martin Solon adduced the following cases from his own practice in confirmation of the same doctrine.

1. A girl had been for a length of time affected with slight impediment in her speech; gradually she lost the power of uttering even a syllable, and every movement of the tongue was lost. Symptoms of contraction and spasm came on, and she died. On dissection, besides the usual traces of chronic meningitis, several hydatids were found in the medullary substance of the anterior cerebral lobes.

2. In another case, whose progress and general character had been very similar to those in the preceding one, there was found on dissection a well marked softening or *ramollissement* of the anterior lobes.

3. A young girl lost her speech after a severe attack of fever. When all the active symptoms had disappeared, frictions over the forehead with an ammoniated pommade were employed, and the speech gradually returned. Similar success attended the use of the same means, in a case where the loss of speech followed a suppression of the catamenia.

M. Gerdy expressed himself unsatisfied with such cases as those adduced by the preceding speaker.

One single well-authenticated case of decided lesion of the anterior lobes, in which the speech was unaffected, is quite sufficient he thought to overthrow the phrenological doctrine. Now many more than one such case may be adduced. Thus, in the remarkable instance reported by M. Andral, of a youth who suddenly lost his speech, sight, and intellect, all the symptoms disappeared after a certain time; the speech returned, and also the intellect and vision. Subsequently this youth died—the amendment having, however, continued to the last,—and on dissection the right anterior lobe of the brain was found to be excessively softened. M. Bouillaud himself is candid enough to acknowledge that it is a very curious instance, and not easily explicable. Many other such cases are to be found in various pathological records.

M. Ferrus, one of the physicians of the Bicêtre Hospital, replied to the observations of M. Gerdy. He was quite willing to admit that, while avowing his belief in the truth of the general principles of phrenology, he did not give his assent to every doctrine inculcated by its professors. He thought that it required many restrictions, and stood in need of not a few modifications; but in his opinion it had already thrown too valuable a light upon the functions of the brain to merit such reproaches as had been used by MM. Cruveilhier, Gerdy, Rochoux, &c., &c. He had satisfied himself by numerous researches that the faculty of language is really seated, or, in other words, has its material organ in the convolutions of the anterior lobes. I have, says he, over and over again observed that in those persons, who are gifted with a striking memory of words and an aptitude for the acquisition of languages, the eyes are usually prominent and full, in consequence of the great development of the inferior portion of the anterior cerebral lobes. The lower part of the forehead too is usually projecting in such persons.

My pathological observations have led to a similar result; and they are certainly not at all in accordance with those of M. Rochoux. I have, for example, repeatedly observed that, in the majority of cases where the speech had become affected after the delirium of insanity, the anterior and inferior convolutions of the brain exhibited striking alterations, either as to the consistence of their cineritious matter, or in the relations between it and its investing membranes, or in the more deeply-seated medullary substance. Three days ago I examined the body of an insane, almost idiotic, patient, who had become paralytic: for a length of time his speech had been confused, and his condition presented no chance of amendment. More lately his symptoms had become more acute and violent. The excessively congested state of the blood-vessels of the meninges and of the substance of the brain accounted for this aggravation; while the unusually strong adherence of the pia mater to the special convolutions—designated by Gall as the organ of language—afforded a rational explanation of the loss of speech in this case.

M. Ferrus adduced two or three other similar examples in confirmation of the phrenological doctrine on this subject. He then alluded to the cases reported by Andral and others, which appear to be conflicting with these; and suggested that most of them are far from being conclusive, seeing that in by far the larger majority one organ only of the faculty has been injured, its fellow in the other hemisphere remaining the while almost or altogether intact. But even admitting that both organs have been found seriously altered, without the faculty being deeply disturbed, such cases by no means afford so decisive an argument against M. Bouillaud's views, as some of my learned colleagues appear to imagine. Every pathologist knows how frequently different parts and viscera are found after death almost totally disorganized, which had given out during life no very decided symptoms of disturbance or disease. If this be true of the brain *en masse*, and of other organs, why may it not be equally so of parts of the brain?

M. Bouillaud closed the discussion—which had continued during three *seances* of the Academy—by replying to the various arguments and facts which had been adduced by his opponents.

Certainly we must acknowledge that the phrenological doctrine has on the whole very successfully resisted the attacks of its adversaries during this rather protracted ordeal, and that not a little merit is due to M. Bouillaud for his manly and able defence of his positions. Even M. Cruveilheir admitted that he did not combat *à priori* the localization of the faculties of the mind: moreover, that he willingly acknowledged the utility of phrenology, and the services which it had already conferred; but, continued he, "I have not yet heard sufficient reasons to place the organ of language in one part of the brain to the exclusion of other parts."—*Gazette Medicale.*

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THE MORE FATAL YEARS OF LIFE.

The First Report of the Registrar-General for Births, Deaths, and Marriages, addressed to Lord John Russell as Secretary of State for the Home Department, has just been published. To all those who are fond of such subjects it will well repay the perusal.

For the greater convenience of arrangement the whole of England is divided into twenty-five divisions. In looking to the return of deaths, I find some most remarkable coincidences, which the accompanying extract will sufficiently explain. I find almost invariably that more people die at the ages of 30, 40, 50, 60, and 70, than either in the year before, or the year after; if we take the middle period of 50, it is entirely so, and the following numbers for the whole of England.

Died at 49 years of age, 915; at 50, 1454; at 51, 816.

Thus showing that at 50 years of age almost as many males died as at 49 and 51 together.

I have only extracted the table for males, but I have no doubt a similar result would be shown for females.

These results will open a large field for medical and surgical inquiry, as I believe the facts which are now exhibited have entirely escaped our researches. We have sometimes heard that 45 and 50 are ticklish ages, but such an almost uniform result as the present, I believe, has never been dreamt of.

DIVISIONS.	29	30	31	39	40	41	49	50	51	59	60	61	69	70	71
1. Metropolis parts of Middlesex, Surrey, and Kent (population, of Males 797,445)* . . .	166	286	173	211	391	173	195	366	184	173	322	220	146	227	177
2. Part of Lancashire (118,467)	33	47	36	30	55	31	29	41	21	15	48	25	17	32	16
3. Ditto (109,116)	23	46	36	35	60	33	40	65	17	23	41	19	14	39	14
4. Part of Yorkshire (67,790)*	*14	8	13	11	19	18	9	10	7	11	15	12	*14	10	8
5. Part of Warwickshire (55,457)	11	17	10	10	26	11	10	15	3	9	16	11	6	12	7
6. Ditto Middlesex, Hertford, Bedford, and Buckingham (257,946)	34	41	31	27	56	25	32	60	28	41	65	35	43	69	61
7. Berks, Hants, and Sussex, part of Kent and Surrey not in No. 1. (675,618)	126	135	74	87	129	71	89	106	70	99	158	98	118	164	127
8. Dorset and Wilts (186,898)	17	45	27	26	28	12	16	26	16	29	35	26	28	65	39
9. Devonshire (251,559)	31	36	22	22	42	22	33	34	33	30	57	30	40	71	45
10. Cornwall (152,397)* .	*17	15	13	10	15	12	13	22	18	24	34	19	21	35	19
11. Somerset (207,626) . .	29	32	25	25	38	16	21	47	31	28	53	33	33	54	35
12. Essex (152,157)* . . .	19	19	16	15	19	11	16	21	18	20	24	*28	36	42	33
13. Norfolk and Suffolk (341,394)*	*36	23	*33	25	55	30	28	35	26	37	69	46	46	82	60
14. Cambridge, Huntingdon, and part of Lincoln (155,857)*	*25	18	*19	31	30	16	17	22	18	25	28	17	*25	19	*21
15. Derby, Leicester, &c. (522,566)	56	69	60	45	78	48	49	75	52	69	98	67	100	102	75
16. Gloucester and Oxford, part of Warwick and Worcester, (488,554) .	63	78	51	58	78	51	56	90	41	63	138	60	83	126	88
17. Salop, Stafford, and part of Worcester (111,758)	15	29	14	16	27	15	17	29	12	16	28	8	7	14	12
18. Part of ditto, ditto, and Cheshire (360,777) . .	55	69	52	53	78	39	53	58	49	54	100	54	70	79	68
19. Lancashire, except Liverpool and Manchester (452,750)	74	82	48	61	71	52	72	86	63	55	107	67	61	80	61
20. West York, except Leeds (386,627) . . .	48	65	47	38	70	48	44	58	45	52	82	46	54	61	59
21. East York and City of York (99,757)*	3	12	9	7	19	10	7	20	11	12	24	12	*22	16	14
22. North York, part of West, and Durham (159,521)*	*18	10	*21	12	25	20	17	22	16	17	26	20	21	34	*35
23. Mining parts of Northumberland and Durham (159,470)	27	31	23	26	33	22	15	46	14	31	41	29	22	31	21
24. Cumberland and Westmoreland, and parts of Lancashire and Northumberland (169,136) .	21	24	*25	14	23	13	20	27	23	23	41	22	27	34	25
25. Wales, with the counties of Monmouth and Hereford (858,109) . .	73	97	67	47	91	37	68	73	47	62	111	75	78	125	69

(* This mark indicates a discrepancy in the general rule.)

BIBLIOGRAPHY.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK. Vol. IV. Part III.

THIS part runs from page 177 to page 340 inclusive, and has an appendix from p. 57 to p. 84. The valuable paper of Doctor Beck on the Statistics of Medical Colleges begun in Part II, and continued and completed in the part before us, has been already noticed, in our March number.

The next article is on *Improvement in Medicine*, being the Annual Address delivered before the Medical Society of the State of New York, February 5, 1840, by Laurens Hull, M.D., Pesident. Of the improvements in medicine within the last half century, Dr. Hull notices *vaccination*, in terms of merited applause and admiration; and better because simpler *quarantine regulations*. Next, he adverts to the more successful cultivation of pathological anatomy; and *apropos* of modern improvements in surgery, gives an encouraging view of the saving of limb and other members, and often life, by the avoidance of amputation and of the use of the knife on so many occasions when such resorts were thought to be unavoidable. "It is stated in a late journal that Dr. Gibson, of the University of Pennsylvania, told his class this winter, that, in a recent visit to London, he asked Sir Benjamin Brodie whether he performed as many amputations for diseases of the joints as formerly. The reply was, 'Oh, no! not the twentieth part.' How then do you manage? By rest, position, splints, and diet—was the answer. I am told that Sir Astley Cooper and Mr. Lawrence have quite lately published a declaration to the same effect as to operations in general." The last of the means of improvement specified by Dr. Hull is the establishment of medical societies. "They are established far and wide, and each has done something to increase or to diffuse knowledge."

A Report on the Subject of Medical Education, in the state of New York, drawn up by Drs. Manley, Beck, and M'Call, the committee appointed for the purpose, is partly historical in relating what has been done, and partly suggestive of what might be done for the benefit of medical science and practice. When speaking of the excessive eagerness and haste of young men to obtain the degree of doctor of medicine, the committee holds the following language:

> "But in view of the degree becoming depreciated by the rapid establishment of new medical schools, it may well become a question deserving serious consideration, whether at no distant period, the right of teaching and licensing should not be disjoined. In London, this experiment is now in progress; at the University of London, students from the University College, and King's College medical schools, from the London Hospital schools, and from several of the provincial medical colleges, are examined by persons appointed by the university, and this university has the power given to it by government of granting degrees; and this to the exclusion of the above teaching bodies. Time will show whether the result will be more beneficial than the old plan.
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> "An incidental difficulty to the adoption of this suggestion is the fact that we are surrounded by institutions in other states, who might or might not follow it, and thus our students might be induced to desert our own colleges. This, however, will be of little importance if the increase of medical schools for the next five years should correspond to those just elapsed."

To this separation of teaching and the power of conferring degrees we must come in this country, if we would not see the profession degraded by a crowding into it of imperfectly educated and badly prepared doctors, whose chief passport is a diploma.

On another point, connected with the foregoing, we like the sentiments of the committee. It is, that, on laws for the government of medical societies, the regulation of medical education, and the practice of medicine, the members of the profession, the parties primarily and mainly interested, should be consulted, and their wishes ascertained before any new legislation is attempted. If physicians will take a little trouble, and display a little independence, for even a short time, they will soon acquire and retain that commanding influence which is their due, both in the formation and government of medical and hospital corporations. It is time that they should assume another attitude than that of timid suitors, on subjects on which they are entitled to advise, and instruct, and guide.

Article thirteen, which follows, by Nathan S. Davis, M.D., *is on Diseases of the Spinal Column, their Causes, Diagnosis, History, and best mode of Treatment;* being the Prize Dissertation for 1840. This essay exhibits a condensed view of the chief facts and observations advanced by different writers on the subject. The author, in enumerating the causes of spinal distortion, lays great and deserved stress on muscular debility as the most frequent of these. It again is brought on by the exquisite absurdity and cruelty, a commingling of barbarism and fashion, of *tight-lacing and corseting.* Doctor Davis, whilst sketching the effects of these *motherly* attentions, details also the various remedies had recourse to for their cure and alleviation; including those more particularly directed to what is thought to be spinal curvature, but which he regards, in this case, as the result of weakness of the dorsal muscles. *Attendant affections of other parts of the system* are next noticed by the author, under the heads of *Bones of the Chest and Spine, and of Muscles and Internal Viscera.* The *Diagnosis and Prognosis and Pathology* follow. By the way the original and long accepted meaning of Pathology is overlooked of late years; and in place of indicating as it used the names, symptoms, signs, and seats, and effects of diseases, it is now used as nearly synonymous with morbid anatomy—a part is made to represent the whole.

The *Treatment*, both surgical and medical, adapted to spinal distortions, is judiciously summed up by Dr. Davis, due emphasis being laid on that most important part of the surgical, which should consist of "simple rest in a *completely horizontal position.*"

The second main division of the diseases of the spinal column, as laid down by Dr. Davis, is "*Inflammation of the Spinal Marrow and its membranes.*" A well merited critique of the ultra pathology of those who refer so many and such different diseases to lesions of the spinal cord opens this chapter of the dissertation. We shall not follow the author in his enumeration of the *symptoms*, as given on the authority of Parent-Duchatelet, Olivier, and Abercrombie, nor of the *causes*, or of the *diagnosis* of the diseases, nor of the appearances on dissection of the spinal cord; although we may properly express a wish that the entire dissertation should be diffusively circulated and generally read. In it will be found the main heads, and indeed specification, of treatment, serving as useful hints, though unhappily in the present state of our profession not positive guides to the practitioner.

The third and concluding chapter on *Spinal Irritation* also contains useful matter—a summary of opinions and practice, which, if not over-complimentary to medical sagacity, will be of service in guarding those who come after us against a repetition of indulgence in hypothesis known to be unsound, and of modes of practice proved to be either inert or injurious. The fact, familiar to a physician of common observation and experience, that tenderness and other evidences of spinal irritation are often the effects of irritation transmitted from a viscus, stomach, liver, or uterus, &c., as well as the cause of disease of these parts, is properly adverted to by Dr. Davis.

The *article* which comes next is an address delivered by Dr. Wm. D. Purple, President of the Chenango County Medical Society. The staple of this address is of a mixed nature, ethical and medical; and though common it is good.

Case of sudden Death from Rupture of the Spermatic Vein, communicated by Dr. James M'Naughton of Albany, as article XV. The subject was a female, aged 38 years.

The Appendix consists of details of the proceedings of the State Medical Society of New York, and list of officers of the County Medical Society.

THE HISTORY AND PROGRESS OF PHRENOLOGY. (Read before the Western Phrenological Society at Buffalo.) By R. W. HASKINS, A.M., Corresponding Secretary. Buffalo: Steele & Peck. New York: Wiley & Putman. Philada.: Haswell, Barrington & Haswell. 1839. Pp. 217. 12mo.

THIS sketch, both of the science and history of phrenology, will gratify the curiosity of many readers at the present time. We could wish that the author had taken a little more pains to procure the necessary information respecting the progress of phrenology in Philadelphia. The main points are on record in the Medical Journals. The first Phrenolcgical Society in the United States was formed in this city, in the month of February, 1822, of which Dr. Physick was made president, Dr. John Bell corresponding secretary, and Dr. Benjamin H. Coates recording secretary. From this time, and not "twelve years since," as Mr. Haskins has it, must we date the public advocacy of phrenology by Drs. Coates and Bell. The subject was more formally introduced by Dr. Bell delivering two lectures to the "Central Phrenological Society established at Philadelphia," at its meetings on the 4th and 18th of March, 1822. These lectures, published in the 4th volume of Dr. Chapman's Medical and Physical Journal, were intended to illustrate and enforce the doctrines by various proofs and analogies.

An interest was manifested to such an extent as to induce the Society to procure an extensive collection of casts from Paris and Edinburgh; and although the zeal was not maintained by the many, yet the original inquirers and converts after inquiry have ever continued to explain and defend what they believed to be the truth. A stronger proof cannot well be furnished of the fruits of the seed thus sown in Philadelphia, than the fact that here Mr. Combe had the largest class by far of any which has listened to him in the United States, and it was only exceeded in point of numbers in one of the cities in Great Britain.

In 1822 Mr. Combe's Essays on Phrenology were republished by Messrs. Carey & Lea, with considerable additional matter furnished by the Editor, Dr. Bell, viz., a Preliminary Essay, consisting of the lectures already mentioned, and a chapter on the Anatomy of the Brain as displayed by Gall and Spurzheim, and another on Insanity. A review of these Essays will be found by reference to Dr. Chapman's Journal, vol. 5th, and one of the Transactions of the Phrenological Society of Edinburgh (1824), and of Dr. Caldwell's Elements of Phrenology (1821) in the 8th vol. of that Journal. The last was written by Dr. Bell. In the seventh volume of the Journal, there is an able article entitled *Comparative Phrenology*, from the pen of Dr. B. H. Coates. In the twelfth volume of the *North American Medical and Surgical Journal*, a full review of Dr. A. Combe's work on Mental Derangement, written by Dr. Bell, is preceded by an outline of the science of phrenology, and of the basis, anatomical and physiological, on which it is believed to rest. From the same pen there is a similar sketch, given in the appendix to the third edition of Broussais's Physiology—translated by Drs. Bell and La Roche.

From the year 1823 to the present time, Dr. Bell has given some lectures on Phrenology every summer to the class of the Medical Institute, as a part of his course on the Institutes of Medicine. We may take occasion here to correct an error in which Mr. Haskins has been led, when he says, p. 108, speaking of the labours of Dr. Caldwell: "In 1837 he was invited to Philadelphia, where he delivered a course to the class of the Summer Institute." The facts are, that Dr. Caldwell being in this city on a visit, as was and is his wont, during the summer, some of the students of the Medical Institute whose curiosity had been excited by the outlines of Phrenology given in Dr. Bell's lectures, were desirous of hearing a farther exposition of them from Dr. Caldwell, then in the city. The lecture-room of the Institute was accordingly procured for Dr. Caldwell by Dr. Bell's instrumentality, as it was the vacation time, and the former gentleman began a course before the students and some of the citizens, the completion of which was, however, prevented by the great heat of the weather, and, if we remember right, by Dr. Caldwell's bad health.

We have never thought it worth while to urge specifically any claims to notice on the ground of early and consistent advocacy of the doctrines of phrenology, and now state our course, and that of our friend, Dr. B. H. Coates, on the subject, only since some gentlemen are inclined to make our doings matter of history.

We ought not to conclude without stating, also, that Dr. Harlan, even then advantageously known for his zealous prosecution of natural history and comparative anatomy, gave a short course of lectures on Phrenology in the Philadelphia Museum, during the spring of 1822.

OBSERVATIONS MADE DURING A VISIT TO THE CLARENDON SPRINGS, VT. Relative to their Character and Properties, in a part of July and August, 1839. With an analysis of the Waters. By JOSEPH A. GALLUP. Windsor: 1840. Pp. 14. 8vo.

THE SALT SULPHUR SPRINGS, MONROE COUNTY, VA. By THOMAS D. MÜTTER, M.D., Lecturer on Surgery, Fellow of the College of Physicians of Philadelphia, &c. &c. 1840. Pp. 32.

DR. GALLUP's pamphlet on the Clarendon Springs reveals an important fact which, though not formally elaborated into a principle, has been, happily, often acted on in case of certain other so-called mineral waters. It is, that the water of those springs is "in fact more pure than river waters;" and, as a gentleman who, engaged in the task, had before remarked: "The unusual purity of the water proves an obstacle in the way of analysis." The Clarendon Springs contain less carbonic acid and more nitrogen gas than the common limestone waters. Dr. Gallup draws a conclusion which, although it may be sound Aristotleian logic, is not precisely that which would convince the medical inquirer. Remarkable for composition, "we may perhaps, then," says Dr. G., "infer that their sanative powers may also be *remarkable*." As the mineral substances held in solution are but one ten thousandth part, the doctor foregoes any claim on this score in favour of the Clarendon Springs, but inclines to believe that "their sanative properties most probably consist in the gases they contain, with their peculiar proportion and combinations." In 100 cubic inches of gaseous matter evolved, there are of carbonic acid, 0.50; oxygen gas, 1.05; nitrogen gas, 98.45. A gallon of water contains of nitrogen gas 9.63 cubic inches, of carbonic acid gas 46.16, besides atmospheric air. Of the saline matter in the gallon there are 5.76 grs.; consisting of carbonate of lime 3.02, muriate of lime, sulphate of soda, and sulphate of magnesia 2.74. The temperature of the High Spring is 48° Fahr.; that of both Lower Springs 54° Fahr. The analysis was made by Mr. Augustus A. Hayes of Roxbury, Mass.

Of the utility of the waters of the Clarendon Springs, Dr. Gallup, on the faith partly "of the declarations of credible persons and partly from direct observation at this time," is disposed to think highly. When we add that he suggests a trial of their use in phthisis pulmonalis, and in ulcerations of the glands and mucous tissue of the large intestines, with diarrhœa, attending "slow typhoid fevers," the reader will have some idea of the curative powers with which the author supposes them to be endowed.

After the recorded expression of our own opinions, which we reproduce in the following extract, we do not feel disposed as some might be, to tax Dr. Gallup with credulity. "The most sceptical on the subject of our accomplishing great results by simple means cannot retain their doubts, after witnessing or hearing recorded the numerous cures of various maladies by the use of the Malvern waters as a drink and for bathing, and by inhaling the pure and refreshing air of that region of country. It must, however, seem, after all, an incredible fact to many, that a water like that of the two principal springs at Malvern, should have acquired such celebrity for the cure of disease, and ranked so high in the class of mineral waters, when it contains no more than three or four grains of foreign or solid matter in the gallon.

"Divesting ourselves of prejudice or prepossession, derived from the professional and scholastic refinements of one class, and the love of the marvellous and spirit of exaggeration of the other, we shall be compelled to grant, that whatever good effects have been evinced in drinking the waters of Buxton, Matlack, Bristol, and Bath in England, and of Lebanon [N. York], and the Warm and Hot Springs in Virginia, they are mainly explicable in the principle of dilution and temperature."* The sentence which follows has a more direct relation still to what is said by Dr. Gallup of the Clarendon Springs. "Dr. Scudamore, a writer by no means ready to abandon art in favour of nature, or to assign a virtue to a simple, when it can be contested by a compound, admits, that the medicinal action of Buxton water must be referred to its purity, its temperature (82° F.), and its gaseous impregnation with azote." There are only about four and three-quarter cubic inches of azote in nitrogen in the gallon of Buxton water.

The pamphlet now published by Dr. Mütter on the Salt Sulphur Springs is the first of a series which he proposes to give on the Virginia Springs. The initial chapter of the present production is on Mineral Waters in general, their *modus operandi*, their abuse, and rules for their use. The second chapter contains a topographical account of the Salt Sulphur Springs and their chemical composition; the last being the result of an analysis made by Professor Rogers of the University of Virginia. In chapter third we have an enumeration of the "diseases to which the Salt Sulphur is applicable." Thus we learn "that in all *chronic* affections of the brain, *nervous system*, some diseases of the lungs, stomach, *bowels*, *liver*, *spleen*, *kidneys*, and *bladder*; it is one of the most valuable of our remedial agents. In diseases of the joints (gout and rheumatism) and skin; in *mercurial sequelæ*, in hemorrhoidal affections, and in chronic diseases of the *womb*, it is also a remedy of immense importance." A tolerably extensive catalogue of diseases, it must be confessed, which can be cured by the Salt Sulphur water! Dr. Mütter makes some remarks under several heads, which, whilst they will confirm the faith of many in the efficacy of the waters, are also on occasions cautionary, if not prohibitory, against their use in certain diseases, such as organic affections of the heart or large blood-vessels, tubercles with cavities in the lung, hæmoptysis. "For pulmonary cases, the Salt Sulphur offers," we learn, "the advantage of an agreeable temperature and a *dryness* of atmosphere not possessed by the other springs in the mountains of Virginia. During the season, which continues from the first of June to the middle of September, the thermometer ranges from 70° to 85° Fahr., and there is little or no fog in the morning." The advantage of a dry atmosphere is only evident in certain cases of pulmonary diseases, such as humid asthma, and chronic catarrh and bronchitis, with abundant expectoration.

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* Bell on Baths and Mineral Waters, p. 525-6.

We shall not follow Dr. Mütter in his enumeration of the different diseases in which the waters of the Salt Sulphur Springs are beneficial, but would refer the parties most interested, invalids and their physicians, to the pamphlet itself, in which they will see abundant attestations of benefits received, by drinking the waters.

MEDICAL COLLEGE OF PHILADELPHIA.

In conformity with the provisions of the charter of incorporation of the Medical College of Philadelphia, the following officers have been duly elected by said college: —

President, Thomas T. Hewson, M.D.; *Vice-Presidents*, Thomas Harris, M.D., Charles D. Meigs, M.D.; *Treasurer*, Henry Bond, M.D.; *Corresponding Secretary*, John Bell, M.D.; *Curator*, Joseph Brookfield, M.D.; *Recording Secretary*, Joseph Warrington, M.D.

Board of Examiners, Jacob Randolph, M.D.; Charles D. Meigs, M.D., for one year; D. F. Condie, M.D, Robt. Bridges, M.D., for two years; Reynell Coates, M.D., Caspar W. Pennock, M.D., for three years.

The Maryland Medical and Surgical Journal for April is issued. Among the articles is one on the Daguerreotype by Dr. Aikin, which, although not medical, will be perused with pleasure. It furnishes that kind of information, on the means of transfering the object in nature and art to the plate for their permanent impression, which all are desirous of acquiring, and which relatively few have at this time. Dr. Aikin gives a detail of all the successive processes, illustrating the text by a series of plates, six in number, each containing numerous figures.

Among the pictorial embellishments and means of instruction in this number of the Journal, there are numerous wood cuts, exhibiting the varieties of club-foot and the apparatus for its cure, in a good review of the works of Drs. Mutter and Scoutteten on this deformity.

THE ECLECTIC
JOURNAL OF MEDICINE.

VOL. IV. JULY, 1840. No. 9.

ON MEDICAL AND SURGICAL PATENTS.*

BY JOHN BELL, M.D.

PATENTS, as a kind of monopoly, have commonly been regarded with mistrust in liberal legislation and jurisprudence. In the medical profession the law of custom, sanctioned by the practice of the highest authorities in it, has ever been opposed to the taking out of patents for medicines, or combination of medicines, or for surgical instruments. There is no example in medical annals of an attempt at concealment† or the exclusion of others from participating in the benefits accruing from their labours by the discoverers in physiology, pathology, and therapeutics, any more than by the great teachers of surgery and the distinguished operating surgeons who may have invented surgical instruments. We do not find a single physician of eminence from Hippocrates to Rush, nor a surgeon of any distinction from Polidorius to Ambrose Paré and his successors, of the schools, in France, of Louis, Desault, and Dupuytren, or in England, of John Hunter, Astley Cooper, Abernethy, and Lawrence, whose name is connected with patent rights to secure for his more especial benefit the profits of an improvement or discovery in medicine or surgery. In the biography of Philip Syng Physick, the father of American surgery, we read with pride of his numerous important additions and modifications both in principles and practice, and of his inventions of instruments; but, in no instance, can we learn that he ever for a moment thought of making any of them the ground for a claim of patent right. Equally disinterested has been the conduct of Civiale, both in respect to showing the several steps in the operation of lithotripsy, new, important, and successful as it was, and in allowing, without reserve or restriction, the manufacture of his instruments by all and for all who desired them.

Neither Harvey, nor Haller, nor Hunter, nor Bell, nor Magendie, nor Tiedemann, attempted to convert their physiological discoveries into sources of personal emolument by their becoming patentees, although their experiments were prosecuted at a great cost of time and, in some instances, of money. Jenner, although he had spent years in studying and noting the effects of the cow-pox on the human frame, and exposed himself to obloquy and censure in consequence, did not either involve in mystery, or ask for the exclusive right of using and vending that great prophylactic for the devastating and disfiguring plague of small-pox. The grant subsequently made to him by the British Parliament was purely voluntary, and not on condition of his revealing any secret, but as a compliment to genius, if not a reward for benevolence.

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* This paper was presented as a sketch of a Report submitted to a Committee appointed about eighteen months ago by the Medical Society of Philadelphia.

† Despite the clear dictionary meaning based upon the origin of the word patent, I cannot help speaking of it, and always regarding it in our profession at least, as a means of virtual concealment.

If we look over the list of medicines now in common use, they will be found to be an inheritance from our predecessors, who left them without restriction of patent. Squill employed by the ancient Egyptians, hellebore and rust of iron by the Greek Melampus, are instances of the remoteness of the date at which some of the articles of the materia medica became the common property of the medical profession, to which contributions have been freely made in successive ages down to modern times. In our own day, chemistry has enriched therapeutics without stint or restriction by the discovery of the alkalies, consisting of the active principles of bark, opium, and various bitters and narcotics, for which, if the general plea were valid, patents might have been asked and obtained. In whatever direction we turn, we find that a free offering has been made by all professional men of historic fame and eminence, of their knowledge, their discoveries, and their inventions; and it cannot, therefore, require the aid of your committee to show that the law of custom, resting as it does in this case on pure and lofty ethics, has now justly acquired the force of common law, and that, although statutory declarations may give it additional form, they can hardly render it more obligatory.

It seems, indeed, to be but equitable that he who inherits the free use of the knowledge of all preceding ages should, himself, contribute without reservation his mite to the general stock, if favoured by genius or fortunate chance he shall have made any discovery or invention susceptible of useful application to the removal of disease, or to the preservation of health. An enlightened physician cannot well reconcile with his conceptions of the dignity and liberality of his profession anything patent or concealed in the practice of it, excepting always the secrets of his patients.

It is a settled maxim that the rights of personal and of political liberty cannot be forfeited by desuetude. Would it be saying too much to add as a corollary, that the rights of the profession to any medicine, or combination of medicines, and to surgical instruments and apparatus which, in course of time, may have gone out of use, are not in consequence of this at all weakened, nor can these rights in their subsequent exercise be restricted or curtailed at the will of an alleged modern discoverer. Some surgical instruments introduced at the present day with avowed pretensions to novelty and originality are but repetitions, if not copies, of those deposited in that great store-house of ancient art—the museum at Portici near Naples,—and which were in use some eighteen hundred years ago by the surgeons of Herculaneum and Pompeii. These again of such antiquity in our eyes are in some instances but copies of those in use a thousand years before among the chirurgical faculty of ancient Egypt. In medicine all experience warrants a strong presumption that the combinations of drugs for which patents are obtained, as well as nostrums of less recognised pretensions, have in truth no claim to originality, nor, it may be added, to advantageous effect over officinal formulæ and extemporaneous prescriptions. The physicians and surgeons who might be supposed from their genius, their learning, and their experience, to elicit novelties of practice, have never appeared in the guise of patentees; and those of inferior note who should figure in this way may not uncharitably be suspected to have derived their alleged inventions from sources common and familiar to the profession at large.

But were it, in fine, proved that a medicine had really been discovered, or a surgical instrument invented for the first time, there are still objections of a weighty nature against a patent being procured for such discovery or invention. We will suppose the new medicine to be the chief alkaloid principle of the bark and its saline combinations, which has been patented. Some experiments having shown that it is adapted to the cure of a large class of diseases, it is of course all important, first, that physicians in general should become acquainted with its origin, nature, and affinities, in order to prescribe it with confidence and success; and secondly, that it should be procured pure and abundant, and at as low a rate as the laws of trade will justify. But, from its being a patented article its name is to be found, not in the dispensatory, but the patent-office; its properties are not subjects for examination in the materia medica, nor its effects for experimental observations in therapeutics. It remains apart, to be timidly given in those forms of disease alone for which the inventor and patentee ushered it into notice. The cause of humanity suffers in the imperfect and restrained use of a substance which might, with more diversified trials, be found of indispensable service in a great variety of maladies. Again; if it be a justifiable boast of the medical profession that never do its members turn a deaf ear nor withhold their advice and skill from the poor and the destitute, must it not be their wish, as it ought to be their endeavour, that the medicines, as the direct material instruments by which they are able to relieve suffering, to cure disease, and to ward off death, should be pure and cheap. But where no salutary supervision can be exercised nor rivalry admitted, as is the case with a patented medicine, no security can be given on this score. Still greater and yet common, and in a measure inevitable, are the abuses growing out of spurious imitation and adulteration of the article in question, by which the public are defrauded, and their hopes, on occasions too of vital importance, rendered delusive,—without their having the power of redress and prevention. By tardy process of law the patentee may indeed sometimes detect the imposition and abate the evil; but where so many are interested to deceive him by vending under the popular name a cheap and worthless substitute, and where physicians who, by their position and feelings, would be disposed to aid in correcting the abuse, are prevented from engaging in analyses and comparisons by the original restriction and mystery of the patent, he can never to any extent do even limited justice to his fellow-citizens in this matter. The patentee has no adequate control over those who are disposed to defraud him and the public at the same time, nor have the profession and the community at large security against the carelessness, or, it may be, the knavery of the patentee in the preparation of his medicine, or combination of medicines.

It is a part of the law of patents that they must not be hurtful to trade, nor generally inconvenient, nor mischievous, nor immoral. The Committee leave it to the society to say how far the objections just made against the patenting of a new medicine, in reference to its price, purity, and effects on the health of the community, would bring it within the scope of legal prohibition.

MERCURY, BLUE-PILL, AND CALOMEL: THEIR USE AND ABUSE.

BY G. G. SIGMOND, M.D., ETC., ETC.,

Lecturer on the Practice of Physic at Sydenham College, etc., etc.*

THE author of this little volume is one of the now *comparatively* few physicians who combine not only classical literature, but the literature of their profession, with the science and practice of it. Dr. Sigmond has paid great attention to certain branches of his profession which used to be considered auxiliary, but are now wisely deemed integral portions of medicine—namely, botany and chemistry. Pharmacology, too, which is still more essential than the others, has been carefully cultivated by our author. In the present volume he has selected one of the most important—if not *the* most important, articles of the materia medica, for dissertation, and has handled it with great ability. He modestly claims the merit of compilation, rather than of composition; but it is very evident that there is much of the latter in this volume. And were it otherwise, the judgment necessary for careful selection, and the graces of style calculated to render science attractive, are no trifling merits. Dr. S. justly observes that his "difficulty has been to condense the vast mass of materials which the judgment, the profound knowledge, and the labour of a great number of writers in different languages, have amassed, and to place it in an attractive form before the young and inexperienced."

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* Duodecimo, pp. 129. Renshaw, 1840.

The history of mercury, from the times of alchymy down to our own days, is traced with great labour and research—then the particular preparations of this metal are noticed, and the opinions of eminent practitioners adduced for and against them. The following quotation shows the practical turn of our author's observations.

"That which is commonly considered a most innocent medicine may be the source of the utmost harm, if it be taken at an improper moment, or under unfavourable circumstances. Medicines generally and apparently unhesitatingly prescribed, are given with safety by those only who are intimately acquainted with their modus operandi. Thus magnesia, than which nothing can be more useful under proper regulations, and nothing is considered more simple, has been productive of fatal consequences, from the ignorance with which it has been administered, or the perseverance in taking it when it has failed in its expected influence. Masses unchanged have been found after death closely collected together, or patches of the powder adhering with the utmost pertinacity to the intestines, because there had been none of the acid with which it should combine to be properly efficacious. Some very curious instances of this kind are upon record, and some of the cases have been, from the apparently suspicious circumstances, made subjects of legal investigation; for even death from arsenic has been supposed to have taken place, when examination has shown that magnesia has been its cause. Manna, so useful a laxative to children, is not to be used incautiously, notwithstanding its usual harmlessness. When much vegetable food has been taken, more especially in young children, if this remedy be given, dyspepsia of a most aggravated character occurs; the quantity of flatulence produced has been a fearful evil, and the consequences have been alarming. Castor oil, one of the favourite popular remedies, if given under improper circumstances, will not only occasion excruciating tormina, but will be the cause of the expulsion of the mucus which lubricates and defends the passages from injury, and what have been supposed to be exfoliations have taken place, leaving behind a surface so irritable, that months have elapsed before a normal state has prevailed. The neutral salts, those of Epsom, of Cheltenham, or of Harrowgate, are not to be trifled with; and many individuals who have recourse to them without proper advice, have to repent that folly; diarrhœa, dysentery, and sometimes dropsy, supervene upon their injudicious use. Gamboge, which has lately crept into fashion as a purgative, is of all others the most uncertain, and oftentimes the most pernicious; its influence is principally exerted upon the muscular fibre, and hence peristaltic action is increased; and as there are many who, from want of proper attention, have costiveness dependent upon a sluggishness of action, they find benefit from pills in which this forms a principal ingredient. Its power, when it is properly exerted, is very striking, and it becomes, in the hands of the well-informed man, a very valuable adjunct, but it is a most energetic engine of mischief; it has been known to produce introsusceptio, having, from the vigour of its action, caused an inverted motion, such are its stimulating power upon the muscles; and in some of those instances which have come before the public, of death produced by violent action of pills upon the intestinal canals, this drug has decidedly been the means employed. The good sense of the public has taught it to give up the constant employment of aloes, once the basis of every pill that was to act upon the bowels, and gamboge, which is infinitely more mischievous, has unfortunately been substituted; but, of the two evils, the hæmorrhoids produced by aloes are infinitely preferable to the diseases and to the results consequent upon the other purgative. Even senna, the valuable ingredient of the black draught, and which certainly comes nearer to a harmless domestic remedy than any other, is not so alone; it will disorder the smaller intestines for a great length of time; it is not only a momentary cause of griping and of inconvenience, but it leaves behind it a very great tendency to those uncomfortable sensations, and more particularly if the liver have not been previously called into some slightly increased action, by which the bile is poured forth, and thus the general action of the intestinal canal be duly and properly augmented; these circumstances demand the very greatest caution and attention. Indeed, a catalogue of sorrows occasioned by the indiscriminate and foolish use of purgatives might be drawn up; but such is the headstrong tendency some have to doctor themselves, that it would be rather a curious than a useful task to undertake it." 60.

Dr. S., after noticing the revolution effected in the treatment of fever by calomel purgatives in the hands of Dr. Hamilton,—as also in chlorosis, hysteria, chorea, &c., observes:—

"It has been stated upon good authority, that the putrefying mass, emitting a faint, nauseous, and exceedingly pungent smell, which has been first expelled, after medical assistance, from constipated habits after febrile disease, is capable of transmitting infection to a very considerable distance, and constitutes a miasm of the most fearful character, which speedily depresses the nervous energy of those who may be thrown within the reach of its influence; and hence spring up the host of fevers, which are familiar to some countries, spreading with the most fearful rapidity, and attacking most especially those who are by want of care predisposed to every exciting cause of disease. Few depressing agents are more instantaneous or more certain than the effluvia issuing from fæcal matter, and sometimes in hospitals it has been found that ulcers put on their most unfavourable aspect, if the suffering patient be in the neighbourhood of the temple of Cloacina." 65.

He properly remarks that the system of purgation has been carried too far by some practitioners, notwithstanding the checks sustained by the unreasonable dread of aperients entertained by the disciples of Broussais, and by the continentals generally.

Dr. Sigmond's description of the catharto-mania is very humorous—perhaps a little too highly-coloured—but still within the boundaries of verisimilitude.

"It has been very sagaciously observed, that the public are naturally fond of the doctrine of the humoral pathologists, and that they are most willing to believe, that, by active purging, there is carried off a great deal of poisonous matter which would enter into the system, and gradually overpower it. When a medical man is called in who is an advocate for the purging system, patients generally soon fall into his way of thinking; they have a sort of gratification in discharging a large quantity of nasty-looking, greenish or black stuff; and if the excretion be attended with any marked fetid odour, they feel a sort of self-complacency; they fancy they have discharged a mass of corruption, and they are very far from being indisposed to the advice of the learned doctor who recommends them another dose of blue-pill and a draught; they say they are quite ready for it; and are quite pleased at the idea of another disgorgement, and cannot resist the gratification of making another attack upon the enemy, who, they fancy, must very speedily collect his forces. They voraciously swallow the doctor's stuff, and, as they say, they find themselves lighter, and their appetites improve. They are very much pleased with what has been done for them; and, indeed, were they then to rest contented, all would be well; but they fancy they have discovered the means of attaining lasting health, they therefore give way to the pleasures of the table, quite satisfied with the idea that they know how to get rid of any accumulation that may occur, and think that they are perfectly capable of taking care of themselves; then probably once or twice in the course of every week they swallow some drastic purgative, either quite ignorant of what they are employing, or, from having found, under the hands of the doctor, such relief from calomel or blue-pill, they take a fixed dose of one or other of these. Sometimes, after dinner, a kind friend recommends his own pill from a prescription he had from Abernethy or Baillie, or the fashionable dyspeptic doctor of the day, which he declares he has used twice a week for the last five years, and never known an ache or pain since; the greedy auditor swallows the tale, and afterwards the physic, whose composition may be completely opposed to his state; he goes on with it, week after week, disordering his bowels, expelling the natural mucus, urging on the canal to increased action, till at last his stomach and the whole digestive apparatus become really impaired. He then goes from physician to physician, all over London: each gives him a prescription for a tonic, a stimulant, or a bitter; at length a permanent irritation is kept up, the whole system sympathizes with the state of the alimentary canal, the mind is feverish and irritable, the viscera become deranged, and at last the poor sufferer falls a victim to the early benefit which he had received from the proper administration of medicine, and then from its abuse." 67.

"The unnatural colour and the fetid odour of the stools, are quite as often produced by the medicine that has been exhibited, as by any other cause; for often does calomel give rise to the very odour which some persons think is a proof that medicine is to be continued; the slimy stools of children, which are often the cause of purging being carried on to a very great extent, are, in many instances, the consequence of what has been given. As long as the remedial agent is taken, the fæcal residue does not acquire its wonted solid consistence, nor give forth the usual smell, which is acquired from its remaining in a certain portion of the large intestines. It is but, comparatively speaking, from a limited surface that the mixed odour is acquired, and there is a very great difference between that which is caused by the secretion from the liver, and that by the lower portion of the intestinal canal. The offensiveness of the fæcal evacuation, though it may guide the practitioner as to the particular viscus which is disordered, cannot serve as any assistant by which he may ascertain whether more action is required." 68.

In weakly children, the system of purgation is often injurious, by carrying off nutriment before the chyle is extracted from it. It is not, as Dr. Sigmond has judiciously remarked, on mere purgation that the utility of purgative medicine depends; but upon their exciting the salivary, gastric, biliary, pancreatic, and other secretions, and thus aiding the functions of digestion and assimilation. We may observe, from very long experience, that, while the motions are dark and fœtid, *without mucus*, there is little danger from purgation, where other symptoms appear to require that measure; but whenever the natural mucus of the bowels begins to present itself with the motions, we ought to slacken our pace, or much mischief will be done. It is curious, however, that patients, in general, think themselves very lucky in getting rid of mucus, or "slime," as they suppose it acts injuriously in the bowels, whereas it is the removal by medicine of that which ought to remain.

Dr. Sigmond glances lightly but historically, at the various writers who have directed the use of mercury to the cure of diseases, and presents us with a curious coup d'œil of the clashing opinions and testimonies of different authors, respecting this celebrated mineral. We quote the following passage as deserving attention.

"Minute doses of mercury frequently repeated have met with their warm advocates both in chronic and acute diseases; and when Abernethy's mode of administering blue-pill has been unsuccessful, the plan of diminishing the dose, and increasing the frequency, has been inculcated. From half a grain to the eighth of a grain has been proposed, and has been considered beneficial, given at intervals of from six to eight hours. I have seen great irritation of the system kept up by this treatment in many cases in which this plan has been followed. In affections in which a vitiated state of the bile was predominant, a degree of nervous excitement has been often produced upon the third or fourth day, which has called for a discontinuance of the remedy. Notwithstanding a rigid attention to the rules which have been laid down in the management of small doses, I have had occasion to observe failures where benefit was expected to be derived. Nor have I found any cases in which Abernethy's system failed from any of the causes which usually operate, in which blue-pill could be borne in any dose. I have uniformly found, where blue-pill was distressing in one dose, that it was equally so in another, and I have rarely found the minute quantity better borne than the larger, if repeated. An active dose of medicine has generally been absolutely necessary to carry off the source of irritation, and sometimes nervous depression. A great tendency to action, on the mucous membrane especially, marked by sore-throat, has speedily followed a perseverance in this system. To give tone and strength to the system during mercurial medicines generally requires great knowledge of the patient's constitution; for irritation and excitement are as often the result as the depression and debility, which indicate the necessity for the employment of these powerful agents." 89.

The author makes many sensible and practical remarks on sarsaparilla, which we recommend to the young practitioner.

The following passage is deserving of quotation.

"A distinction is to be recognised between laxative and purgative medicines: the first merely emptying the bowels of such fæcal contents as may already be lodged there, whilst the second class have the power of inducing a still further increase of the quantity, and of stimulating the vessels to pour forth more excrementitious matter. The chloride of mercury will, according to the dose in which it may be given, produce either of these effects; but it is the biliary secretion that is most augmented, and this is particularly marked by an alteration in the colour and the odour of the fæces. All the preparations of mercury, more or less, have this influence; and patients who have, for a length of time, excreted only blackish and unhealthy looking dejections, discharge them of a yellow hue, and of a different odour, after a few grains of calomel or of blue-pill. The odour is oftentimes rendered more disagreeable, and a change takes place in the gases that are developed. The colour depends upon the kind and quantity of the bile secreted by the liver; and where any obstruction takes place, the stools are pale or whitish. The bile itself is of a deep yellow-brown colour, and, as Abernethy has observed, it is like wetted rhubarb; if either of the substances be put into a large quantity of water, they will dye it of a bright yellow colour, which is actually the colour of these substances, yet it is so concentrated in the mass as to appear of a deep brown. Green bile is ordinarily the result of disordered function, although it has been occasionally found in the gall-bladder, where the liver is in a perfectly healthy state. Vegetables frequently give their colour to the fæces. The peculiar fætor of the residue of the alimentary matter is acquired in the large intestines; and if the small intestines at their termination, and the large intestines at their beginning, be examined, there will be found almost a line of demarkation. To what this is owing we are at a loss to say. It is not alone a chemical decomposition that occurs, but the animal economy imparts a peculiar change. The examination of the fæces has been but little prosecuted: although a subject of some interest, it is one that requires great enthusiasm in the cause of science, and very little delicacy in the sense of smell; nay, the very perusal of some authors' inquiries is nauseating.

Lavoisier wrote a memoir on the nature of the aëriform elastic fluids, which are disengaged from certain animal substances during fermentation; his experiments proved that human excrement emits, at the temperature of 60 degrees, a gas, a mixture of eleven parts carbonic acid gas, and one part of an inflammable gas, which burnt with a blue flame, and was, therefore, probably carbonic oxide gas; the experiments of Thenard and Dupuytren prove, however, that sulphuretted hydrogen is likewise exhaled from human fæces collected in large quantities; the changes that take place out of the body, by the action of the humid air, appear to be very rapid. Fresh fæces do not effervesce with dilute sulphuric acid, but old moist fæces do, emitting the volume of carbonic acid gas which they do at first. The chloride of mercury appears to exercise over the action of the large intestines some power, as the gaseous exhalations materially differ when it has been employed; and this is particularly striking in children, the odour of the dejection being very materially influenced in them, and much more offensive fætor being the result; and this, in general, is a proof of the due action of the medicine, for the system, previously disordered, appears thus to rid itself of a deleterious agent.

Whether the extrication of the different gases be natural to the human body, or whether it be the result of our artificial habits of life, I will not presume to say. It is stated that our living on animal food is the cause of the greater number of the diseases to which man is subject, and that it also imparts to that which is excreted from man the offensive odour: and certainly many animals that are herbivorous are inoffensive on that point, whilst carnivorous animals are the reverse; and some philosophers have entered upon some curious speculations arising out of these circumstances. Rousseau, indeed, draws a conclusion, that man is not calculated for the social state, because his excretions, his effluvia, and his emanations, are destructive to his fellow-creature. Whatever may be the means by which the inflammable air is extricated from the intestines, certain it is that great indications of the nature of the matter taken in by the mouth, and its effects upon the health, may be drawn from a knowledge of the odour evolved, and from correcting it by the administration of medicine. Disease commencing in the rectum and large intestines, may often be recognised by the quantity of flatus evolved, and unnatural diet will keep up an irritation which may prove very injurious." 109.

The work winds up with a dissertation on the injurious effects of mercury imprudently exhibited; with some most judicious rules to be observed during the administration of mercurial preparations. We think we have said enough, and exhibited sufficient specimens of this little volume, to insure it a favourable reception with all those who have not possessed the original lectures. We hope the author will pursue his researches and experiments on the vast catalogue of medicinal agents—a field most extensive, and for the cultivation of which Dr. Sigmond possesses excellent qualifications.—*Med. Chir. Rev.*

GATHERINGS FROM GRAVE-YARDS, ETC., ETC.

BY G. A. WALKER, SURGEON.*

The object of the present work is to open the eyes of the public to the dangerous and disgusting results arising from the present practice of interments in the heart of cities, and in the midst of a dense population; and to endeavour to procure "the entire removal of the dead from the immediate proximity of the living." It cannot be denied that the present manner of burial has become a serious evil, and one well worthy of the attention of the government: but we are afraid that the custom, which originally arose from the credulous belief of the common people in the powers of the church over souls after death, inducing them to seek a grave in the immediate neighbourhood of some place of worship as a protection against the enemy of mankind, is now too deeply rooted in the human mind to be easily eradicated.

* Longman and Co. 1839.

Setting aside, however, the deleterious effects to the human frame from the pestiferous vapours continually exhaling from such enormous masses of putrefying remains, which must exercise a most baneful effect, especially on those living in the more immediate vicinity of these pest-holes,—we think that, if the public attention were to be once fully directed to the disgusting and monstrous practices continually resorted to with regard to the ashes of the dead, in order to make room for fresh supplies, they would be inclined to prefer a sepulture removed from the town, and in which they might rest in peace, to the present revolting practice of huddling up as many human bodies as can possibly be crammed into one narrow space in order that the proprietors of these places may reap as great a harvest as possible. Let us take, for example, one case detailed by our author: he is speaking of the burying-ground underneath Enon Chapel:—

"This space measures in length 59 feet 3 inches or thereabouts, and in width about 28 feet 8 inches, so that its superficial contents do not exceed 1,700 square feet. Now, allowing for an adult body only twelve feet, and for the young, upon an average, six feet, and supposing an equal number of each to be there deposited the medium space occupied by each would be nine feet: if, then, every inch of ground were occupied, not more than 189 (say 200 in round numbers) would be placed upon the surface; and admitting (an extravagant admission most certainly) that it were possible to place six tiers of coffins upon each other, the whole space could not contain more than 1,200; and yet it is stated with confidence, and by credible authority, that from 10,000 to 12,000 bodies have been deposited in this very space within the last sixteen years!" 237.

It is not long since an extreme sensation was excited by the greatly exaggerated tales with regard to the practice of exhumation for the purposes of dissection, but we must say that none of these tales could at all equal the wholesale exposure and dismemberment of the dead which must here have been had recourse to.

We will now, however, proceed to a consideration of the book itself.

Mr. Walker devotes the first part of his work to a history of the burial-places of the ancients.

1. *Sepulchres among the Jews.*

According to the Jewish law the touch of a dead body contracted a legal impurity, hence they dreaded all communication with it, so much so, that travellers were even forbidden to walk near the places where the dead had been interred. Every city had its public cemeteries beyond the walls.

2. *Funeral Rites of the Greeks.*

Inhumation appears to have been the most ancient custom among the Greeks, and the practice of conveying the dead to a distance from cities, was sustained both by the laws and by the religious doctrines of this refined nation.

Among the Romans the prohibition of inhumation in towns, was fully established in the law of the twelve tables, "Hominem mortuum in urbe ne sepelito neve urito;" and this law was renewed by all the succeeding forms of government.

Among the early Christians, also, the practice was for a long time zealously observed. The first person to whom they granted the privilege of being buried within the walls of a church was Constantine; after this the practice became more and more common till at last interments within churches was accorded to "Pagans as well as Christians, to the impious and the holy." The prohibition, after Constantine, was renewed in the code of Theodosius, and afterwards in that of Justinian, but though these edicts produced some effect for the time, yet the habit had become so universal, that the efforts to restrain it, made by the decrees of more than twenty councils convened at different periods from the 8th to the 18th century, were of no avail. In 1765, the parliament of Paris took a stand against the abuses of the present system of interment; in the preamble to their decree on the subject, it was asserted, that "daily complaints are made on the infectious effects of the parish cemeteries, especially when the heats of summer have increased the exhalations; then the air is so corrupted, that the most necessary aliments will only keep a few hours in the neighbouring houses: this proceeds either from the soil being so completely saturated that it cannot retain or absorb any longer the putrescent dissolution, or from the too circumscribed extent of the ground for the number of dead annually interred. The same spot is repeatedly used; and, by the carelessness of those who inter the dead, the graves are, perhaps, often re-opened too soon."

It was not, however, till 1790 that a law was passed, by the National Assembly, commanding all towns and villages to discontinue the use of their old burial-places, and to form others at a distance from their habitations. The cemeteries of Paris are four in number, viz., Père-la-Chaise, Montmartre, Vaugirard, et Mont Parnasse.

"The French Government has, therefore, shown itself preëminently attentive to the health, and, consequently, to the happiness of its members. Commissions were issued—inquiries instituted—laws enacted—royal decrees published, and well arranged plans formed and executed. The remains of those who had long lain mouldering in their tombs have been carefully removed from the interior of cities, and respectfully and securely deposited, and mortuaries have been fixed and consecrated for those who follow so far distant from 'the busy hum of men' as not to molest or endanger the survivors; whilst in almost every other country the putrefactive process emanating from those who have gone to their last homes is allowed to accumulate in the very midst of the habitations of the living, and to form the nuclei of increase, if not the origin, of the most malignant diseases." 90.

Having thus given an extremely slight sketch of the history of burial places, (for an exceedingly interesting description of which we must refer the reader to the book itself,) we will now follow the author in his description of the state of some of the

BURYING-PLACES OF THE METROPOLIS.

Burying-Ground, Portugal Street.—"The soil of this ground is saturated, absolutely saturated, with human putrescence. * * * The effluvia from this ground at certain periods are so offensive, that persons living in Clement's Lane are compelled to keep their windows closed; the walls even of the ground which adjoins the yards of those houses are frequently seen reeking with fluid, which diffuses a most offensive smell." Typhus fever appears to be very prevalent in the neighbourhood, especially in Clement's Lane, which is absolutely surrounded by burying-grounds.

Enon Chapel.—The upper part of this building is devoted to the purposes of public worship, underneath it is the burying-ground, being separated from it only by a boarded floor. From ten to twelve thousand bodies have been placed here, since its establishment, in pits, the uppermost of which were covered only by a few inches of earth.

"Soon after interments were made, a peculiarly long narrow black fly was observed to crawl out of many of the coffins; this insect, a product of the putrefaction of the bodies, was observed on the following season to be succeeded by another, which had the appearance of a common bug with wings."

A Sunday school is held in the chapel.

"Residents about this spot, in warm and damp weather, have been much annoyed with a peculiarly disgusting smell; and occasionally, when the fire was lighted in a house abutting upon this building, an intolerable stench arose, which it was believed did not proceed from a drain. Vast numbers of rats infest the houses; and meat exposed to this atmosphere, after a few hours, becomes putrid." 156.

St. Clement's Church, Strand.—"There is a vault under this church called the '*Rector's Vault*,' the descent into which is in the aisle of the church near the communion table, and when opened the products of the decomposition of animal matter are so powerful, that lighted candles, passed through the opening into the vault, are instantly extinguished; the men at different times employed have not dared to descend into the vault until two or three days had elapsed after it had been opened, during which period the windows of the church also were opened to admit the perflation of air from the street to occupy the place of the gas emitted; thus a diluted poison is given in exchange from the dead to the living in one of the most frequented thoroughfares of the metropolis. The other vaults underneath the church are also much crowded with dead. From some cause, at present doubtful, these vaults were discovered to be on fire* upwards of fifty years ago; they continued burning for some days, and many bodies were destroyed." 158.

There was formerly a well by the side of the church, but the water became so nauseous that it could not be drunk, owing to its becoming impregnated with the putrefying matter with which the ground was charged.

Drury Lane Burying-Ground.—This ground is now raised to a level with the first-floor windows surrounding the place, in it have been deposited some thousands of bodies.

Whitechapel Church.—The burial-ground adjoining the church, placed in the midst of a dense population, is so thickly crowded as to present one entire mass of human bones and putrefaction. "In digging a foundation for a new wall, the workmen penetrated through a mass of human bones eight or ten feet in thickness: these bones were thrown out and for some time lay exposed to public view, scattered over the ground in a loathsome humid state."—These were afterwards deposited in two or three pits which were filled up to within a few inches of the surface.

Bunhill Fields, *City Road.*—In this burial-ground, occupying about seven acres, more than one hundred thousand interments are supposed to have taken place.

Mr. Walker has given a detailed account of many more of our metropolitan cemeteries; but we think that, from what we have furnished, the reader will be able to form a pretty accurate judgment of the remainder. We will, therefore, extract the account of only one more, to show that this system is not confined to the poorer parts of the town, but extends even to the immediate vicinity of the palace.

"*Buckingham Chapel*, situated in Palace street, about three minutes' walk from Buckingham Palace. There are two vaults and a burying-ground belonging to this chapel; one of the vaults is *underneath very large school-rooms for boys and girls*,† and the other is *underneath the chapel;* the entrance to these vaults, is through a trap-door, in the passage, dividing the school-rooms from the chapel; steps lead to the bottom of the building; on the right, is the vault underneath the schools. When I visited this place a body had recently been interred, and the effluvium from it was particularly annoying. The vault is supported on wooden pillars, and there is only one grating, which fronts the street, to admit light and air; the floors of the school-rooms, white-washed on the under surface, form the roof or ceiling of the vault—it is no difficult matter to see the children in the lower school-room from this vault, *as there are apertures in the boards sufficiently large to admit the light from above.* This place is spacious but very low;—the vault on the left, under the chapel, is about the same size as that under the schools, though much lower. I was assured that the ground was so full of bodies, that there was difficulty in allotting a grave: the roof of this vault is formed by the under surface of the floor of the chapel; it is white-washed, the light passes through it; the smell emitted from this place is very offensive. In the vault underneath the chapel there are piles of bodies placed in lead; the upper ones are within a few inches of the wooden floor." 184.

We will not attempt to offer any comments on the facts which have here been detailed; they speak for themselves.

The remainder of the work is principally occupied by the consideration of the ill effects produced on the human constitution by these putrid exhalations; out of the immense number of cases brought forward by our author to prove their dangerous tendencies, we will select two only as illustrations of the results produced during the two most dangerous stages of animal decomposition, which he considers to be,—1st, that which takes place almost immediately after death, and the 2d, during the extreme degree of putrefaction. As an instance of the evil consequences produced by the exhalation of the gases generated during the first stage, we may quote the following case.

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* "This is not a very unusual circumstance; the vaults underneath St. James's Church, Jermyn street, many years since, were on fire."

† "Some hundreds of children here receive their daily education."

"In the month of June, in the year 1825, a woman died of typhus fever, in the upper part of the house No. 17, White Horse Yard, Drury Lane; the body, which *was buried on the fourth day*, was brought down a narrow staircase: Lewis Swalthey, shoemaker, then living with his family on the second floor of this house, and now residing at No. 5, Princes street, Drury Lane, during the time the coffin was placed for a few minutes, in a transverse position, in the doorway of his room in order that it might pass the more easily into the street, was sensible of a most disgusting odour, which escaped from the coffin. He complained almost immediately afterwards of *a peculiar coppery taste*, which he described as being situated at the base of the tongue and posterior part of the throat; in a few hours afterwards, he had at irregular intervals slight sensations of chilliness, which before the next sunset had merged into repeated shiverings of considerable intensity; that evening he was confined to his bed,—he passed through a most severe form of typhus fever; at the expiration of the third week he was removed to the fever hospital—he recovered; he had been in excellent health up to the instant when he was exposed *to this malaria*." 132.

The effects of the gases produced during the extreme stage of putrefaction are illustrated by the following case:

"My pupil, Mr. J. H. Sutton, accompanied by an individual, for many years occasionally employed in the office of burying the dead, entered the vaults of St. ——— church; a coffin, '*cruelly bloated*,' as one of the grave-diggers expressed it, was chosen for the purpose of obtaining a portion of its gaseous contents. The body, placed upon the top of an immense number of others, had, by the date of the inscription on the plate, been buried upwards of eight years; the instant the small instrument employed had entered the coffin, a most horribly offensive gas issued forth in large quantities. Mr. S. who unfortunately respired a portion of this vapour, would have fallen but for the support afforded by a pillar in the vault; he was instantly seized with a suffocating difficulty of breathing (as though he had respired an atmosphere impregnated with sulphur); he had giddiness, extreme trembling, and prostration of strength; in attempting to leave the vault, he fell from debility; upon reaching the external air, he had nausea, subsequently vomiting, accompanied with frequent flatulent eructations, highly fetid, and having the same character as the gas inspired. He reached home with difficulty, and was confined to his bed during seven days. The pulse, which was scarcely to be recognised at the wrist,—although the heart beat so tumultuously that its palpitations might be observed beneath the covering of the bed-clothes,—ranged between one hundred and ten and one hundred and twenty-five per minute, during the first three days; for many days after this exposure, his gait was very vacillating." 133.

The remainder of the book is devoted to a general *resumé* of the principal facts and observations contained in the preceding pages.

Having now completed our review of this work, it only remains for us to say, that it will be found well worth the perusal of every person at all interested in the preservation of the health, decency, and cleanliness of the metropolis, and may, perhaps, prove not unacceptable to the general reader, as presenting a complete and curious history of the different modes of interment which have been resorted to among different nations, as well as for its novel description of the burial-places of London, which, we believe, have never, until now, formed the subject of any work.

In taking our final leave, we must, in justice to Mr. Walker, state, that the book is clearly and vividly written, and the author deserves great credit for the industry and zeal which he has displayed in his by no means agreeable researches among the grave-yards; we hope, however, that he may reap a full reward for his labours, by seeing the disgusting nuisance against which he has declared war, at least mitigated, even if not altogether put a stop to.—*Med. Chir. Rev.*

SICKNESS AND MORTALITY IN WESTERN AFRICA.

A PAPER was read, 'On the Sickness and Mortality in Western Africa,' by Major Tulloch, before the London *Statistical Society.* The object of this communication was, to submit a brief statement of the principal facts contained in a Report on the health of the British troops in Western Africa, recently presented to Parliament, combined with a few observations, to which the consideration of that subject naturally gave rise. The three principal British military stations on the coast of Western Africa have been the Gambia, Sierra Leone, and the Isles de Loss. The settlement on the Gambia is situated at the embouchure of one of those mighty streams which drain the tropical regions of the African continent, and is surrounded on all sides by low swampy ground, covered with a wilderness of forest and underwood. The same features present themselves for a distance of nearly 500 miles along the coast, to Sierra Leone, of which the physical aspect is very different, presenting an elevated peninsula, from 2,000 to 3,000 feet in height, with an estuary on one side, and a river, several miles broad, on the other. The soil is dry, and the position well sheltered from the marshy regions by high mountains. The Isles de Loss, which form the third military station, have again a totally different aspect, consisting merely of a few barren granite rocks, about eight miles from the main land, and almost destitute of water or vegetation. These stations lie within the tropics. The climate is principally distinguished for its extreme moisture; upwards of 300 inches of rain have frequently fallen during the wet season; and more has been measured in two nights, than falls in Great Britain during a year. The temperature is rather under, than above the average in similar latitudes, but, except at Sierra Leone, is subject to rapid alternations. No supposed agency, however, is sufficient to account for the extreme hostility to the European constitution manifested by the climate of this coast. It is, indeed, one of the most remarkable phenomena in vital statistics, that a line of coast some thousand miles in extent, exhibiting every possible variety of physical aspect, should, in this respect, present so singular an uniformity. The observations from which the extreme insalubrity of this climate has been demonstrated, extend over healthy, as well as unhealthy years; they refer to the civil, as well as the military population—to the temperate, equally with the intemperate. With regard to the military, during a period of 18 years, from 1819 to 1836 inclusive, out of a mean strength of 1,843 men, 890, or about one-half, died annually; and in 1825 and 1826, nearly three-fourths perished. This frightful loss of life was not confined to the period above referred to only, for during the nine years antecedent to 1819, which were not deemed particularly unhealthy, the death of the white troops averaged one-fourth of the numbers annually; and in 1837-38, after six years of comparative healthiness, fever broke out with similar violence, and proved equally fatal. It is proper, however, to mention, that the troops employed on these stations have been, to a considerable extent, of a class the least fitted to contend against the climate—a large proportion having been composed of soldiers allowed to volunteer their services in this insalubrious climate, as a commutation of military punishments, and among whom vice and intemperance were carried to the utmost height. But even in the absence of such exciting causes of disease, the consequences have been found nearly as fatal; for, in 1825, when, with the view of improving the *morale* of the corps, 100 recruits of a better description were raised in England by voluntary enlistment, their fate was the same as that of their comrades. A more striking proof, however, of the utter inability of temperance to ward off the fatal disease, appears in the case of the church missionaries, among whom the mortality is stated to have been as follows:—Of 89, who arrived between March, 1804, and August, 1805, all men in the prime of life, there died 54; 14 returned to England in bad health, and 7 in good health; while 14 remained on the coast. The preceding returns refer to three stations of which this military command is composed. When the Isles de Loss and Gambia stations are investigated separately, the results are still more appalling. The first detachment of white troops, consisting of 108 men, arrived at the Gambia station in the latter end of May, 1825, just as the rains commenced. Between that date and the 21st of September, the casualties among them were as follows:—Died of remittant fever, 74; and of other diseases, 13; leaving only 21 alive. During this period, a detachment of about 91 men was kept at sea, on board a transport, and, while there, did not lose a man; but when, at the end of September, room was provided for them by the death of their comrades, they were landed, and made up a force of about 112; of whom, between that period and the 21st of December, there died of fever, 61; and of other diseases, 12;—leaving alive, at the end of the next three months, 39. 200 Europeans were sent to supply the vacancy, but, before three months had elapsed, 116 were in their graves. Thus, during a period of nineteen months, 296 Europeans perished, out of a force of which the number on shore seldom exceeded 120, and was sometimes even as low as 40. From the total absence of vegetation and marshes in the Isles de Loss, it was supposed these islands would form a desirable station, and, accordingly, the centre island was selected as a depôt for recruits who had voluntarily enlisted at Chatham. The following record shows how miserably the expectation was disappointed: out of 103 men who landed on the 23d of February, 1825, there died in 18 months 62, and 21 were sent home invalided, leaving but 20 of the original force in the country. Fevers of the remittant type, appear to have been the great source of mortality, one-half of the persons attacked with them having been cut off. A large proportion of them were of the character generally denominated yellow fever. Attempts have been made to connect the appearance of this disease with the circumstance of the rains commencing earlier or later, or being heavier or lighter than usual, but without any satisfactory result. The range of temperature, and the prevalence of the winds, have also been carefully observed, but seem in no way connected with the disease; nor does elevation produce any effect in procuring an exemption from it. The barrack, though at the height of 400 feet, has frequently been the scene of greater mortality than the lowest situations in the town; and recently, when a body of seamen were removed to the village of Wilberforce, at an elevation of 500 feet, with the view of keeping them free from fever, they suffered even to a greater extent than on board the shipping in the harbour. The proportion of deaths by diseases of the brain was unusually high. Dropsy, generally the result of fever, was also frequent, and fatal; and the troops suffered much from ulcers, many of which were of so serious a character, as to render amputation necessary. These are the principal facts relative to the white troops serving in Sierra Leone; the mortality among the black, during the same period of 18 years, from 1819, to 1836, inclusive, was as follows: of a mean strength of 7,581, 228 died; although this is far from being as high as among the white troops, still it appears very considerable, when we take into consideration that the soldiers were all in the prime of life, and serving on their own shores. In a climate where fever cuts off two-fifths of the white troops annually, the same mortality might be expected among the blacks. This, however, is not the case; that race being almost entirely exempt from it, the proportion attacked annually is only 54, and the deaths $2\frac{4}{10}$ths per thousand of the force employed, which is a lower ratio than in any colony where negro troops serve. The black, however, is subject to many diseases from which the European is exempt, and amongst them small-pox in particular. About 1,000 miles to the east of Sierra Leone, are four small settlements, which, for a few years, were garrisoned by British troops, viz., Cape Coast Castle, Dixcove, Annamaboe and Accra. The physical aspect of these stations differs very materially from Gambia or Sierra Leone. It is neither swampy nor mountainous, but consists of a succession of sandy hillocks, gradually rising, until at the distance of about a quarter of a mile from the shore they attain a height of from 150 to 200 feet. These hillocks, as well as the intervening valleys, are covered with forest-trees, but, about Accra the country is clear and open. The white troops employed on these stations were volunteers, and of a mean strength of 630 there died in the course of four years, 1823–26, 421. This frightful mortality extended to all the stations, and was not confined to the troops alone. Out of 21 merchants who arrived in 1822, four only survived in 1825; out of 77 officers, who arrived between 1822 and 1827, no less than 37 died, and out of 42 women and 67 children landed with the troops in 1823, 29 women and 41 children perished in less than fifteen months. The fevers on this part of the coast are as virulent as at Sierra Leone. On the average of seven years, one in two and a half of those termed "Remittant" proved fatal. Diseases of the lungs were rare, but those of the liver unusually common. From the extreme unhealthiness of these stations the troops were withdrawn, and an attempt made to establish a garrison at the island of Fernando Po, which, being about twenty miles from the main land, exceedingly mountainous, and not marshy, was deemed likely to prove a more favourable residence; yet, this expectation was disappointed, the majority of Europeans sent there died from fever, within a year after they landed, and the island is now retained only as a depot for negroes captured in slave-ships. Taking them into account, the mortality throughout all the stations in Western Africa, the fate of the various detachments may be thus summed up:—Out of 1,685 white troops that arrived in the years 1822, 1823, 1824, and 1825, there died from 1823 to 1827, inclusive, 1,298, and 387 were invalided. Of these latter, 17 died on their passage home, and only 33 of the remainder were, on inspection, found fit for further service. This extreme mortality was not confined to the soldiers; the officers suffered also, in the following proportions:—209 per thousand died annually; and 197 per thousand returned home invalided. Thus, taking the average of healthy, as well as unhealthy years, upwards of a fifth have died, and nearly an equal proportion been invalided annually. The fatal influence of the climate of Western Africa on European constitutions is clearly established for a tract of 2,600 miles along the coast, and the intermediate distances between these stations have been proved equally unhealthy by the experience of our cruisers and merchantmen, who are in the habit of ranging along it. The same insalubrity has been found to extend to the French settlements of Goree and Senegal, 300 miles north of the Gambia. Thus the investigation brings to light the remarkable fact of nearly 3,000 miles, from Senegal to Fernando Po, being so decidedly hostile to European life, and there is reason to believe, from the experience of the French army, that the same unhealthy character is found to extend along the Mediterranean shores of Africa. To determine, then, what are the causes which render so large a portion of this mighty continent the grave of Europeans, seems an inquiry well worthy of the enlightened philosophy of the present day.

From a discussion which arose upon this paper, it appeared that a fever of the same nature, and the causes of which were alike inexplicable, occasionally ravaged the eastern parts of Africa, and was raging in Nubia and Abyssinia during Mr. Holroyd's visit there. While, on the other hand, the south-eastern coast of Africa, from the Cape of Good Hope to Delagoa Bay, was stated by Major Tulloch and Major Charteris, the latter of whom had visited Port Natal, to be unusually healthy.—*Athenæum.*

ON INFANTINE RESUCITATION.

BY SIR JAMES EYRE, M.D.,

Senior Physician Accoucheur to the St. George's and St. James' Dispensary.

To the Editor of the Medical Gazette:

Sir,—Should the following case appear to you to be worthy of a place in your valuable periodical, I shall feel obliged by its insertion:—

I was summoned at three o'clock, p.m. on the 11th instant, to take charge of a lady in her first confinement, whose calculation had fixed a month later for the accouchement: in consequence of some unusual exertion, the liquor amnii had begun to pass off two hours previous to my arrival. There was but little pain, and I left. By six, however, regular expulsive efforts commenced, and continued steadily and powerfully till half past ten, p.m., when a male infant, of apparently eight months, was born: the pulsation of the funis was very feeble, and the movement of the heart scarcely distinguishable. The skin was pale, the limbs flaccid, and the child evidently in a state of asphyxia. On removing it from the mother, I immediately proceeded to inflate the lungs, immersing the body, at the same time, in warm water. Although no sign of animation encouraged me, the palpitation being no longer perceptible, I, nevertheless, steadily and perseveringly continued the process of inflation more than half an hour, when, to my unspeakable satisfaction, and just as I had begun to despair of success, the child uttered a feeble moan, the heart fluttered slightly under my hand, and gradually, but surely, (for my little patient is now living and healthy,) respiration and circulation were duly perfected. I am strongly impelled to draw the particular attention of my younger brethren (for whom these remarks are intended), to this subject, because, notwithstanding the directions given by lecturers on midwifery, I feel persuaded, from long experience, that it has not yet received the consideration which its manifest importance demands. Before I conclude, I wish to add, that I uniformly inflate with my own breath; and that, in this matter, I perfectly agree with Dr. Cape, in a sensible letter of his which appeared in the Medical Gazette of October 7th, 1837, and to which I refer my readers: he there alludes to two cases of resuscitation which occurred in the early experience of my friend Mr. Terry, of Northampton, so long ago as April, 1818.* In one of these instances Mr. T. persevered two hours and a half; in the other, one hour and a half. My case occupied a space between half an hour and three-quarters. Both Mr. Terry's children were revived, although the first only lived nine hours.

Lower Brooke-street, Feb. 24th, 1840.

ON INFLATION OF THE LUNGS IN THE TREATMENT OF ASPHYXIA.

To the Editor of the Medical Gazette:

Sir,—The inflation of the lungs with pure oxygen, or even protoxide of nitrogen, has often been proposed in the treatment of persons found drowned, but from many alleged causes has as constantly been abandoned. The following experiments, carefully performed, with a view to determine the exact nature and proportion of the gases contained in the asphyxiated lung, appear to me so closely connected with the successful treatment of asphyxia in general, that I feel disposed, through the medium of your valuable periodical, strongly to urge the more frequent and persevering use of the above stimulating gases, especially in those excellent establishments instituted solely for the recovery of drowned persons. Before detailing the experiments, I may premise, that the duration of life in warm-blooded animals is influenced—1st, by their power of developing animal heat; 2d, by the external temperature to which they are exposed; 3d, by the celerity in which respiration is obstructed; 4th, by the extent to which the air is prevented entering the lungs; 5th, and lastly, by the peculiar irritability and idiosyncrasy of the individual.

Exp. 1.—Having asphyxiated a dog by strangulation, as soon as life was extinct, while he was yet suspended, the trachea was laid bare, and carefully tied, so as to exclude the possibility of atmospheric air entering the lungs. The whole body was then plunged under water, and the trachea being divided near the lungs (having first raised the anterior portions of the ribs and sternum), the lungs were compressed, and the contained air collected in a jar over water. This was tested with the binoxide of nitrogen, and found to contain oxygen, but in exceedingly minute quantity, the ruddy fumes being scarcely perceptible.

Exp. 2.—A second dog was asphyxiated by submersion, and the trachea tied under water. In this instance no ruddy fumes were perceptible.

Exp. 3.—In order to ascertain the exact quantity of oxygen contained in the air so collected, several animals were secured and asphyxiated by strangulation. The air contained in the lungs was collected, as in the former experiments, and yielded very slight ruddy fumes on the admission of the binoxide of nitrogen. The remainder of the air was carefully analyzed, with the following result. Having deprived a portion of this air of its carbonic acid, it was thoroughly dried over mercury, and then submitted, in contact with hydrogen, to the action of spongy platinum, when it was found that 100 measures of this air contained only 1.75 per cent. oxygen ; while air expired from the lungs was found to contain, after the removal of the carbonic acid, 13 per cent.

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* See Edinburgh Medical and Surgical Journal for that month.

Such being the result of the above experiments, it appears rational that, in addition to the means used in general for the resuscitation of drowned persons, the constant and repeated inflation of the lungs with pure oxygen, or protoxide of nitrogen, in order more quickly to decarbonize the already stagnated venous blood, must occasionally be crowned with success, even when inflation with atmospheric air has been tried in vain.

Immediately on the return of animation, the above stimulating gases must, of course, be laid aside.

Should the above hints not prove foreign to the pages of your widely-circulated Gazette, you will oblige me by their insertion.

I am, sir, your obedient servant,

C. M. Durrant, M.D

Hazleden, near Cranbrook, Feb. 21, 1840.

CORRECT VACCINATION, AND IMPEDIMENTS THERETO.*

We recommend the following article to the careful perusal of our readers, convinced as we are that much, very much, of the disrepute into which vaccination has fallen in the minds of many is referrible to a neglect of the caution here indicated. In our own practice we have always made it a rule to wait until the child is free from all cutaneous irritation or discharge before vaccinating it.—Ed. *Med. Sel. Lib.*

In order that the subsequent observations may have a clear and definite meaning, we think it necessary to lay down plainly what we conceive to be required to render the process of vaccination as perfect as possible. We have been constrained to adopt this course from observing the great discrepancy that exists between the statements of different individuals with respect to its protecting power, which we are convinced could not have happened to such an extent, had uniformity of practice been followed.

From the commencement of this practice, efforts were made to ascertain when it had fully taken hold of the constitution, so as to afford reasonable hope of future security. The comparative mildness of the affection rendered this an important point of consideration, and up to this hour it has lost none of its interest. The only perfect test is that which arises from the insertion of the variolous lymph, but as that is on many accounts objectionable, it is better to find out, if possible, some other.

The first to which we would advert is the regular progress of the vaccine vesicle, and we would lay it down as an axiom never to be forgotten, that no one is qualified to speak of its effective character who has not, at suitable periods, noted this progress. The genuine disease can only be produced by pure lymph, from a regular source. The time for taking this lymph, according to Dr. Jenner, is between the fifth and eighth days, and before the formation of the areola. Others have recommended the use of lymph taken at a much later period; but this we believe to be a very questionable practice, and ought never to be followed. It is very true that the affection may be propagated by virus found in the scab, but this only succeeds when active lymph is preserved in a dried state within the scales.

A test, dependent upon the successful progress of vaccination, was very early noticed by Dr. Jenner, and subsequently brought forward by Mr. Bryce, of Edinburgh. He proposed that some fresh vaccine lymph should be inserted into the patient a few days after the first vaccination. This practice was founded on the observation that the second vaccination proceeds with accelerated speed, provided the first has taken effect. It is a very simple and beautiful illustration of the constitutional effects of vaccination, and deserves to be encouraged. An experienced eye will for the most part be able to detect any deviation from the true vesicle. Unfortunately, the means of making correct observations are often denied to medical men, and anything that would secure greater attention to this branch of the subject would be of high value, and unquestionably would have prevented many of the failures that have recently taken place.

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* From the Report published by the Provincial Medical and Surgical Association.

The second point demanding unvarying assiduity, is the character of the lymph employed. It never ought to be taken from a vesicle which deviates in the least degree from the perfect standard, nor from a patient labouring under any cutaneous disease. It is to be feared that these rules have not been punctually observed; and that deviations have been propagated, which afford varying degrees of security, according as they approach to or recede from the healthy character.

A third point which ought ever to be insisted upon, is the leaving one or more vesicles to run their course without being in any way disturbed. This canon was introduced at a very early period, but we have more than cause to suspect that it has been often defeated, either by the carelessness of parents, or the hurried manner in which vaccination is sometimes performed.

Another point on which perhaps too much stress has been laid, is the appearance of the cicatrix. It is true that after regular vaccination, it generally assumes an uniformity of aspect well-known to medical men. The medical officers of the army and navy are compelled to rely a good deal on its appearance; and all recruits on whom it is supposed not to be perfect, are subjected to vaccination. The experience obtained from these services, is, so far as it goes, in favour of information derivable from this criterion. We are satisfied, however, that by itself it ought never to be absolutely trusted, and we must repeat here, what we have already observed, that nothing but a watchful inspection of the progress of the vesicle will justify any one in speaking with confidence of the security likely to be attained.

From all we can learn, we are inclined to believe that though the presence of a perfect cicatrix is not a sure sign of protection, its absence must be held to speak strongly against the existence of vaccine influence. The peculiar appearance of the cicatrix is caused by the reticulated or cellular structure of the vesicle. The same organization occurs also in variola. Now, if the vesicle has been repeatedly opened or broken, the ulcerative process that succeeds destroys the organization of the cells, and leaves a cicatrix nearly smooth, instead of the well-defined indented surface, which may for the most part be seen after complete vaccination. It may also be observed that many persons who have been extensively marked and seamed by small-pox have had subsequent attacks of that disease, proving that after perfect human small-pox, as well as after perfect cow small-pox, a second attack may occur.

Mr. Dodd, of all our correspondents, seems to have paid most attention to this part of the subject. Of fifty-seven cases that had been exposed to the contagion of small-pox and escaped, in six only was the cicatrix perfect; in fourteen it was slightly defective; in thirty it was very imperfect; and in seven it was totally wanting. Out of seventy-seven cases of small-pox after vaccination, one bore a perfect mark, fourteen had the cicatrix slightly defective, forty-seven were imperfect; and fifteen had none at all. Thus, to sum up the whole, out of one hundred and thirty-four cases of vaccinated persons who had been exposed to small-pox, the cicatrices of seven were perfect, and one of these failed; twenty-eight slightly defective, of which fourteen failed; seventy-seven very imperfect, forty-seven of which failed; twenty-two had no marks at all, and of these fifteen had small-pox, while seven altogether escaped.

Our correspondents amply justify us in laying down the foregoing principles; and we also think from the evidence before us, that vaccine lymph, though passed through a great number of subjects, and used for a great number of years, does not necessarily become deteriorated. This, however, can only be said when unceasing attention is paid to every successive transmission; for if a deviation commences, it may be perpetuated, and afford a gradually decreasing protection. There is no doubt that lymph of this kind has been often used. We have satisfactory illustrations of this truth from several of our returns. We will mention one out of many of this kind. Mr. Fox, of Cerne Abbas, thinks that more cases of small-pox have occurred after vaccination performed ten or twelve years, than after vaccination performed thirty years ago, and that this arises from the extensive propagation of imperfect cow-pox, which only affords a diminished amount of security. A remarkable instance came under his observation a short time ago. A father and two children were inoculated with fresh small-pox virus from the same child, and at the same time; both children caught the disease, and the father escaped, though he had been vaccinated more than thirty years. It will be observed in subsequent parts of our Report, that failures are noticed at all periods from a few weeks after vaccination up to thirty or more years. It has been supposed that they are most common at and after the age of puberty; but this is certainly not the opinion of our correspondents in general. Some, it must be admitted, do affirm that small-pox has more frequently occurred in persons recently vaccinated than in those at a remote period, while others assert that time makes no difference.

The influence of cutaneous diseases on the progress of the vaccine vesicles is a point, too, demanding greater attention than it has hitherto obtained. At a very early period Dr. Jenner discovered that the affection was very much modified in its progress by the scaly tetter, and those affections described by Dr. Willan under the term *psoriasis*, as well as those vesicular eruptions commonly called herpetic. He observed that vaccination performed on a skin occupied by any of these diseases, "produces every gradation from that slight deviation from perfection, which is quite immaterial, up to that point which affords no security at all." We have seen the herpetic affection occupying the angles of the mouth, the upper portion of the lip near the nostrils, or the tender skin behind the ears, cause the vaccine vesicle to assume an incorrect form, containing an opaque fluid, with an irregular efflorescence of a dusky red colour. We have also seen similar irregularities commencing from a like cause, which completely disappeared on destroying the herpetic affection, by applying a little of the liquor plumbi. The case to which we at present refer was under the immediate direction of Dr Jenner himself. The premature and jagged efflorescence round the vaccine vesicle had appeared. He immediately detected the cause; and by the application above alluded to, destroyed the disease of the skin. In a very short time the deviation disappeared, and the vaccine affection subsequently ran its course, in a regular manner. It does not uniformly happen that vaccination is thus impeded by the preëxisting cutaneous maladies; but wherever this disturbance is in the slightest degree manifested, the vaccination ought to be distrusted, and repeated as soon as the skin has been brought into a healthy state.

It is a very long time since these truths were impressed upon the public mind; but we have had many proofs that they are not yet sufficiently considered; it is, therefore, our duty to recal them. Dr. Jenner's last publication particularly refers to this point of practice; and we known that it caused him much disquiet that his admonitions and instructions were so little heeded.

Among those of our correspondents who have had most experience, and whose success has been most uniform, we find unequivocal testimony to the accuracy of Jenner's doctrine on this head. Many have made no observations at all respecting it; while some mention dentition, general ill state of health, scrofula, &c., as impediments to vaccination.

Other constitutional peculiarities stand in the way both of human small-pox and cow small-pox. Some resist these affections at one period of their lives and not at another; and there are examples of the very opposite condition, which show that the individual will receive either infection as often as it is presented to him. These peculiarities frequently run in families. We know several children of the same parent, who have had modified small-pox after cow-pox; and not many months ago three brothers had small-pox, one of these cases proving fatal. On this subject we have illustrations from Mr. Dodd, who tells us that six brothers and sisters in one family having been vaccinated when children, had the small-pox a few years afterwards. In another instance, two sisters, vaccinated in infancy, were subsequently inoculated and had small-pox slightly; they both caught the small-pox again in 1837, and one of them had it very severely. Their father caught small-pox; their mother too, who was inoculated when young, had it again in the same year; their maternal grandfather, beholding from a window at night, the funeral of a friend who had died of small-pox, sickened of that disease and died. These are a few of the affinities and concordances between human small-pox and cow small-pox; and we doubt not that every subsequent observation will establish the analogies. In confirmation we farther remark, that the great object of inoculation with human small-pox was to produce an affection as much like that of cow small-pox as possible, and by great care in selecting the virus to be employed this was sometimes accomplished in a very remarkable degree. On the other hand, it is known that the disease, when casually caught from the horse or cow, is often a severe one—as severe, it was said by an experienced observer, as for the most part was inoculated small-pox. We ourselves have seen it, when caught from the horse, exhibiting great intensity, the hands and arms being covered with the eruption.

We will conclude this subject by an extract from one of Dr. Jenner's unpublished letters. "The greatest of all impediments to correct vaccination is that which arises from an herpetic state of the skin; indeed, compared with this, all the rest are as dust in the balance; and when the rules which I have again and again laid down respecting this point, and for so long a period, are attended to, then, and not till then, will the confidence of the public be fully established as to its preventive power."

IMPRISONMENT OF THE SANE IN MADHOUSES.

It is now about a twelvemonth since we directed the attention of our readers to this painful subject.* In one case detailed on that occasion, a young man was convicted of madness because he lay in bed till ten in the morning, and alarmed the neighbourhood; added to which, Sir J. S. Lillie thought that his disliking to go to the lunatic asylum at Hanwell was a strong proof of insanity. In another, a patient was shut up in the asylum at Peckham, because, when let out, his tavern bills were unpleasantly large. In a third, a boy of a violent and selfish temper, with the additional disadvantage of having relatives at once irritable and affectionate, was sent to a madhouse, by way of substitute for a strict school. All this may be mighty convenient to "irritable and affectionate" relations, but strikes us as being anything but just. It is strange to see how easily certificates are signed, when angry relatives have predetermined it. No incoherence so slight, no action so neutral, but is assumed as a proof of insanity. The other day, a Mr. Robinson, whose sanity was the subject of investigation, played a game of cribbage, at the request of his own wife, in order to show an eminent mad-doctor that he could count. The physician was satisfied with his counting, but alleged, in his evidence, that had Mr. Robinson not been mad, he would not have consented to play the game! In good truth, this method of investigating the state of a man's mind, with a predetermination to find it unsound, reminds us of Goldsmith's account of the way of ascertaining if a dog is mad. "A crowd gathered round a dog suspected of madness, and they begin by teasing the devoted animal on every side: if he attempts to stand upon the defensive and bite, then he is unanimously found guilty, for a mad dog always snaps at everything; if, on the contrary, he strives to escape by running away, then he can expect no compassion, for mad dogs always run straight forward before them."†

In an instance, however, which has just occurred, the intended lunatic has been more fortunate, and has come off with flying colours. Mr. Paternoster, it seems, quarrelled with his relations, and did not always express displeasure with the coolness of a sage or an epigrammatist. It would be well if a man always recollected that *ira furor brevist est*, and that if a couple of cool medical practitioners happen to witness his wrath, he may find himself deposited within the iron gates of some asylum before he can recover his composure. Those, on the other hand, who are requested to sign certificates should reflect that tempers vary like temperaments, and that a thin irritable man, dried up in a tropical climate, does not talk like a reviewer. As Dr. Johnson said, when he was asked why he did not write like Addison; "Sir, Addison had his style, and I have mine!" Some less tolerant practitioners, however, signed Mr. Paternoster's certificate, and he was conveyed to Mr. Finch's asylum, at Kensington; but it was so clear that he was not mad, that when the Metropolitan Commissioners saw him, they gave notice to Mr. Paternoster's father, that if *he* did not release him *they* would! Mr. Paternoster, on being released, brought an action against Mr. Finch, and all the other persons concerned in the affair, and it came on for trial a week ago. The suit was compromised, on condition of the defendants paying all Mr. Paternoster's costs, as between attorney and client, and giving him an annuity of £150 per annum. This annuity, we believe, was the original bone of contention, and Mr. Paternoster's indignation at its being withheld was interpreted into madness. This case will be a useful warning to every one not to sign certificates on the representation of interested parties: the law does not ask us to give testimony as to what we have heard from others, but what we have seen ourselves.

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* Med. Gaz., Feb. 23, 1839.

† Citizen of the World, Letter 69.

EMPLOYMENT OF THE RECTAL TUBE IN STRANGULATED HERNIA.

To the Editor of the Lancet:

SIR,—I request your early insertion of the inclosed letter, as it not only conveys a clear idea of the forcible impression made upon the writer by the practice of which he treats, but also evinces the truly kind and generous feelings of British practitioners towards their Irish brethren.

I have the honour to be, sir, your obedient servant,

J. O'BEIRNE, M.D.

North Cumberland-street, Dublin, January 7, 1840.

"Cullompton, Devonshire, Jan. 4, 1840.

"DEAR SIR,—I have recently had under my care a case of strangulated scrotal hernia, in which I adopted, with the most perfect success, the plan recommended by you, introducing a tube per anum, to the extent of sixteen inches or more, for the purpose of giving vent to the flatus contained in the intestines. I trust you will excuse the liberty I have taken in writing to you on the subject, as I am influenced solely by the desire of paying you that respect you are so justly entitled to, and I should not consider myself justified in withholding from you the success I have met with, where the treatment employed emanated entirely from your suggestions. I perfectly agree with you, that 'no medical man can henceforth be considered justified in proceeding to an operation for strangulated intestinal hernia, without having previously given a full and fair trial to the mode of treatment in question.' I may be considered by some, perhaps, rather too sanguine in my expressions, particularly as I have had but one case in which the treatment in question has been put in practice, but really the effect was so immediate (the intestine being almost instantaneously released from its incarceration), that it appeared as though some magic power had worked its influence upon it. I will now proceed to give you the history of the case:—

"On Thursday, the 12th of December, 1839, I was requested to visit John Howe, aged 46 years, a weaver, and a pauper belonging to this parish. I was soon at his bedside, and found him complaining of constipation of the bowels, which had existed for three days previously; constant vomiting; a sense of dragging at the epigastrium, and great pain on pressure of the abdomen; tongue white and coated; pulse 100, but weak. On prosecuting my inquiries, I ascer-

This book is the pr

tained that he had been the subject of hernia on the left side for three years, but had never worn a truss; and on the Tuesday evening previous, while at work at his loom, weaving bags (rather a laborious occupation), he felt the intestine protrude to a much greater extent, and with more pain, than it ever had before. Hitherto, he had always reduced it himself by a little manipulation and the recumbent position. There was a portion of intestine, of the size of an orange, in the scrotum, which I could not reduce by repeated and unremitting efforts at the taxis. I bled him to sixty ounces, but with no better success. On the following evening I went to his house with the intention of operating on him, provided the intestine remained unreduced, but suggested to my friend and colleague, Mr. Smith, the propriety of first introducing the tube as recommended by you. I must frankly and candidly admit, I did not consider it would be of any use; however, he concurred with me in opinion, and I proceeded at once to pass the tube of the stomach pump. There was a little difficulty, which was removed by injecting rapidly a little gruel. The tube was introduced twenty-six inches, and after the expiration of about ten minutes, air escaped in small quantities from its mouth; the scrotal tumour gradually diminished, and the poor fellow was soon released from suffering; the sickness ceased; pain was diminished, and the dragging sensation completely relieved. I gave him shortly afterwards, two drops of croton oil, mixed up with sugar, and divided into three powders (one every three hours, and followed up by a little saline mixture), whereby the bowels were most powerfully acted upon; he is now quite recovered, having resumed his usual occupation more than a week since.

"You are at liberty to make what you please of this letter.

"I have the honour to be, dear sir, yours, most respectfully,

Wm. Haine Maunder."

"To Dr. O'Beirne,
"Surgeon Extraordinary to the Queen, Dublin."

TREATMENT OF MALIGNANT ONYCHIA WITH CAUSTICS.

Let as much of the nail as conveniently can be cut away, with a sharp and strong pair of scissors. Let the whole surface of the sore be freely touched with lunar caustic. This will cause great pain, and a copious discharge of the above-mentioned limpid water. However, let not the caustic be spared. Then let powdered *burnt* alum be sprinkled on it, in considerable quantity, so as to form a thick covering over the sore, and let the whole be enveloped in a cloth containing about a spoonful of magnesia. This latter is, as an absorbent, designed to take up any of the discharge which may ooze out, and which, I believe, has an effect in reproducing the disease. In less than an hour the pain will have entirely subsided, and perfect ease have ensued. Sleep and quiet will now be had. On the next day but one let the sore be uncovered, and the dressing, and any slough which may have formed under it, be gently removed with a pointed quill, or other convenient instrument, which, if to be applied to any other use, I would advise to be carefully washed. Now let the dressing be repeated, just the same form being gone through, excepting that, probably, the caustic need not be so heavily applied. This will, in most cases, be quite sufficient. After the first dressing the good effects will be manifest; the fœtid discharge will be lessened, the pink colour will be diminished, the hardened edges will have come down, and, on the removal of the second dressing, the process of healing will be perceived to have commenced. When the disease has been vanquished, dry lint and magnesia, but no grease.—*Correspondent of the Lancet.*

STATISTICAL RESEARCHES ON PNEUMONIA.

M. Pelletan, *chef de clinique* of M. Bouillaud, has carefully analysed seventy-five cases of pneumonia which he observed in the hospital of La Charité during the years 1834, 1835, and 1836. The following deductions may be drawn from these cases:—

Single pneumonia (*i. e.*, affecting one side of the chest only) is more frequent than double pneumonia, in the proportion of 7 to 2. In the seventy-five cases the right lung was more frequently attacked than the left one, in the proportion of 2½ to 1. The base of the lung was more frequently attacked than the apex, in the proportion of 3 to 2. Men were more frequently attacked than women, in the proportion of 10 to 1. The influence of exposure to cold, as an exciting cause, was found to exist in 7-9th's of the cases. The frequency of the pulse gave no exact indication of the progress of the disease; on the contrary, the frequency of the respiration seemed to measure exactly the degree and danger of the malady.

Prostration of strength and delirium more frequently existed with pneumonia of the apex, than of the base. As for the treatment the greatest benefit was derived from bleeding *coup sur coup*. Only two deaths occurred in fifty-five cases of simple pneumonia, and the duration of the disease was manifestly abridged. Blisters were of little service in adults; sometimes useful in children, but of very great benefit in old people.—*Gaz. Med.*, Jan. 11, 1840.

LONDON, ANCIENT AND MODERN.

The metropolis of England, now almost the metropolis of the world, has made such rapid advances in every branch of social improvement, that to give a complete account of this progress would transcend the efforts of any single historian. It would be enough for one writer, and a diligent one, too, if he confined himself to the progress of domestic comfort, of urban improvement, and of medicine and hygiene.

Dr. Bureaud-Riofrey, in a light and readable sketch now lying before us,* has done something of the kind; but he has given the history of London from the earliest times to the end of the 17th century, without distributing the subject under these heads. This, indeed, is a matter of small moment; a more important objection is, that his essay is too short for his subject. Who can discuss such subjects as the plague, dysentery, sweating sickness, scurvy, water and climate of London, diet of the poor, social state of the poor, emancipation of slaves. suppression of the convents, state of medicine during the middle ages in England, and upwards of forty subjects more, in 120 pages? The book, moreover, is not complete, as it brings down the narrative only to the end of the 17th century, and therefore the most important part of the history of *Londres moderne* is wanting. Let us hope that it may not be long before a continuation appears; or, what we should prefer would be a second edition bearing the marks of deeper investigation. The critic in the Vicar of Wakefield used sagaciously to observe that the picture would have been better if the painter had taken more pains; a critique applicable to a large portion of modern literature.

It seems probable that the progress of domestic comfort has been continuous since the Conquest; yet in the earlier ages after this event it must have been slow, if we judge by the account given by Erasmus of English manners in the time of Henry VIII. Considering that the floors were then of earth covered with rushes, among which lay concealed a mass of bones and filth of every sort, it is difficult to conceive that anything worse than this ever existed, or that the people who lived in this swinish manner were in a state of improvement. Yet worse things, no doubt, had existed, and the germs of a better mode of life were ripening. Holinshead, writing in Elizabeth's reign, talks of the increase of luxury in several points as expounded to him by "old men yet dwelling in the village where I remain." Three things were specially noted by these living chronicles. One was the multitude of chimnies lately erected; while formerly, in ordinary dwellings, the smoke spread through the room without let or hindrance; and was supposed not only to harden the timbers of the house, but to be a preservative of health. The second was the great amendment of lodging. Straw had been previously the material of the bed; and a good round log played the part of bolster. "If it were so, that the father or the good-man of the house had a mattrass or a flock-bed, and thereto a sack of chaff to rest his head upon, he thought himself to be as well lodged as the lord of the town; so well were they contented." "Pillows," said they, "were thought meet only for women in child-bed: as for servants, if they had any sheet above them it was well; for seldom had they any under their bodies to keep them from the pricking straws that ran oft through the canvas, and rased their hardened hides."

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* Londres ancien et moderne, ou recherches sur l'etat physique et social de cette metropole. Par A. M. Bureaud-Riofrey, Docteur en medicine de la faculte de Paris, &c. Paris et Londres, 1839.

From this old use of straw for beds comes the phrase of *the lady in the straw* applied to a woman in child-bed.

The third point was the change of treen or wooden plates into pewter, and wooden spoons into silver or tin. Pewter plates long maintained their reputation for elegance, and did not yield to earthenware till the middle of the last century.

We have just seen that servants often had only one sheet; but, if we may trust Hume's abstract of the Northumberland Household-Book, in the beginning of the 16th century no sheets at all were used in that great family. The luxury of cleanliness is probably one of the last devised. Adam Smith, to show the dearness of some manufactures in early ages, mentions the holland bought by the hostess for Falstaff's shirts, at eight shilling the ell.* This would be equal to more than two pounds now. In George the First's reign, we find Pope counselling Gay to sell out as much South Sea stock as would insure him a clean shirt and a leg of mutton a-day for the rest of his life; but he counselled in vain, and poor Gay was probably reduced to three shirts a-week, and hashed mutton! Every one, when practising physic among the poor, or even among the lower part of the middle classes, must have observed how great is their unconsciousness of the luxury of cleanliness, even when the means of obtaining it are quite within their reach.†

The progress made in diet is equally great, and equally satisfactory. Our ancestors lived on salted meat and fish. Husbandry was so imperfect, that it was impossible to feed the large part of the cattle through the winter; and they were, therefore, killed and salted in the autumn—not only oxen, indeed, but sheep also. This practice was, of course, not limited to England. Hence in Germany, where the months, besides their Roman names, have Teutonic ones, derived from their uses, November is called, Der Schlachtmonath, or the *slaughter-month*, from this necessary custom. The stock laid in for the winter's consumption of a first-rate nobleman was enormous. When the insurgent barons, in the reign of Edward II., ravaged the estates of the elder Spenser, they found in his larder "600 bacons, 80 carcases of beef, 600 muttons. We may observe, that the outrage of which he complained began after the third of May, on the eleventh, new style, as we learn from the same paper. It is easy, therefore, to conjecture, what a vast store of the same kind he must have laid up at the beginning of winter."‡ Two hundred years afterwards, the family of the Earl of Northumberland ate fresh beef only from Midsummer to Michaelmas. The lower servants, says Hume, "as they ate salted meat almost through the whole year, and with few or no vegetables, had a very bad and unhealthy diet: so that there cannot be anything more erroneous than the magnificent ideas formed of *the Roast Beef of Old England*."§ The truth is, that the song of "Oh! the Roast Beef of Old

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* *Host.* I bought you a dozen of shirts to your back.

Fal. Dowlas, filthy dowlas! I have given them away to bakers' wives, and they have made bolsters of them.

Host. Now, as I am a true woman, holland of eight shillings an ell.

First Part of Henry IV. act iii. scene 3.

† A girl of an Irish family was labouring under fever. Clean sheets were prescribed; for which the parents substituted some linen turned down, so as to impose on the inexperienced. The trick was immediately detected, and clean sheets were placed on the bed. This occurred to us in dispensary practice.

‡ Hume's History of England, A.D. 1327.

§ Ibid. A.D. 1509.

England!" was founded rather on the scarcity than the commonness of the food. People do not cry "Oh!" to their ordinary diet. The loin of beef, as every one knows, has reached a dignity unattainable by plebeian joints, and is called the *sir*-loin. Dr. Johnson says, that "it was knighted by one of our kings in a fit of good humour." The doctor does not seem to have known to which king this paroxysm occurred; a man of rhyme attributes it to Charles the Second.*

The progress of diet has been equally remarkable in vegetables. In early times few were cultivated in England for the table; and during many centuries but little advance was made. Dr. Bureaud-Riofrey gives the common story of Queen Catherine sending to Holland for a salad; but though the anecdote is in Hume, we are inclined to think that this is a mistake, and that the Queen sent, not for a salad, but for a gardener to raise it. We confess, however, that we cannot at this moment produce our authority for this emendation; and a similar story is told of peas. "Common as they now are, they were in Elizabeth's time so scarce, that Fuller says they were then in general brought from Holland, and were 'fit dainties for ladies, they came so far and cost so dear."† When speaking of 1660, Hume says "Asparagus, artichokes, cauliflower, and a variety of salads, were about the same time introduced into England."‡

Asparagus was known long before: and is put down, indeed, in our British Floras as an indigenous plant. Potatoes, according to Dr. Bureaud-Riofrey, were very dear in the time of James I. "Sous le roi Jacques Ier, on la regardait comme un objet de luxe, et elle l'était en effet, car on voit cette solanée, citée pour la table de la reine, au prix élevée de deux schellings la livre."

The wide-spread use of the potato is comparatively recent. It first became an object of national importance in 1663, when the Royal Society recommended that it should be planted in all parts of the kingdom, to prevent famine. "Notwithstanding all this," says Mr. Rogers, "it was a long time before potatoes were brought into general use; and even in the author's time (above seventy years ago) they were not held in the highest estimation. * * * This palladium against famine was not cultivated in Scotland before the year 1683."§

We may here remark that every living person has been so accustomed to hear England cited as a model in the arts which minister to social existence, or social comfort, that it is difficult to conceive matters ever to have stood otherwise; yet it is certain that up to the beginning or even to the middle of the last century, England was behind the continent in a number of points where it is now an exemplar. Thus Lady M. W. Montague writes in one of her early letters that she has eaten pine-apple at the Elector of Hanover's table, and does not see why it could not be cultivated in England; and Gray in 1739, tells his mother of "roads which they say are bad for France, but to me they seem gravel walks and bowling-greens." The pine-apple, according to Professor Burnett, "has not been known in Europe above two hundred years, and not cultivated in Britain for more than a century.‖

In horticulture and many other useful arts, the race has not been won by those who had the start of centuries. The moral displayed by these facts is, give a nation the requisites of intellectual life—a free press and a representative government—and the objects of material enjoyment follow of themselves. From the means of rapid travel down to the juicy luxuries of the hot-house, all is granted to the people who know how to win their freedom!

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* "Our second Charles, of fame facete,
On loin of beef did dine;
He held his sword, pleased, o'er the meat,
'Arise, thou famed *Sir Loin.*'"
Ballad of the New Sir John Barleycorn.

† Burnett's Outlines of Botany, p. 663.

‡ History of England, A.D. 1660.

§ The Vegetable Cultivator, p. 240-1.

‖ Outlines of Botany, p. 444.

In most points of mental culture as well as of external prosperity, England is now so far in advance of the continent, that its example is constantly invoked. Hence the line which the French journalists are so fond of quoting against us,—*penitus toto divisos orbe Britannos*—becomes more and more inapplicable every day; for scarce a fibre can move in the frame of England, but chords vibrate in unison throughout every region under heaven!

Tea still lacks its historian; we want its rise, progress, and effects, discussed with the impartiality of an annalist and the knowledge of a physician. The books say that tea was first introduced into this country by Lord Arlington and Ossory in 1666; yet we also learn that several years earlier Parliament imposed a tax upon the tea drunk in coffee-houses. Had the leaf been imported previously to the supposed date? Or did "coming events cast their shadow before," and did the legislature prepare to welcome the stranger after the ordinary custom? The use of tea increased pretty rapidly; yet even in Queen Anne's time, though common, it was by no means universal. When Addison or Steele talks of all the tea-tables in London and Westminster, we are not to understand as many as there were houses, for the tea-table was still a distinctive mark of a certain degree of fashion. Thus is that famous journal of a retired tradesman, though he scrupulously informs us of the ox-cheek he ate, the purl he drunk, and the Virginia he smoked—nay, though he reveals Mr. Nisby's opinion that laced coffee was bad for the head*—there is not a word of tea, for tea was still rather an exclusive drink. This was in 1712; but in 1715, according to Dr. Johnson, not only did we begin the use of green tea, but the practice of drinking tea descended to the lower class of people. The total consumption of tea, however, was so small for a great part of the last century, that it is tolerably clear that the habit of drinking it had not taken root among the majority of the lower orders.

The remainder of this subject we will leave for a future occasion.—*Med. Gazette.*

TREATMENT OF CHILBLAINS BY IODINE.

To the Editor of the Medical Gazette:

Sir,—I am induced by the season of the year, and the consequent frequency of chilblains, to recommend to the profession a remedy which I believe I have been the first to employ in that form of local inflammation, and to solicit a trial of it by others; when I hope it will be found equally efficacious in their hands as it has proved in mine. Perhaps I shall be told that chilblain is a trivial ailment, and that there are already a hundred remedies for it, which, if diligently applied, will speedily effect a cure. That chilblain is not a trivial complaint, the records of every ladies' boarding-school in the kingdom will amply testify. I remember one young lady who was sent to Edinburgh for her education, but, being attacked with chilblain of the heel early in the winter, was confined for many weeks to her bed, or sofa, and at length returned home without having received almost any benefit from the expense which her parents had incurred. Another young lady, in a boarding-school near Bath, last winter, was confined to the sofa for a considerable length of time, during a great part of which she required the daily attendance of a surgeon to dress the ulcers which the chilblains had occasioned. The remedy to which I wish to call the attention of the profession is no other than Lugol's solution of iodine, which is to be rubbed on the chilblained spot with a bit of sponge twice daily; and generally, after the second application, the itching, pain, and livid redness are gone, the tumefaction has subsided, and the part is covered with a shrivelled shining cuticle, stained, of course, with the iodine. This treatment ought to be assisted by covering the hands with soft leather gloves; and the feet, if they should be the seat of the chilblains, with chamois leather socks: but I do not mean to say that it will not prove effectual without such precautions. The pain caused by applying the solution of iodine is sometimes pretty sharp, but it is not of long duration; it is less severe, and certainly much less alarming, than the popular remedies of singing with a red-hot poker, or setting fire to oil of turpentine smeared over the part. I have not employed the iodine in any case of ulcerated chilblain; but I have no doubt it would prove equally beneficial in such cases by dressing the ulcer with lint dipped in the solution. The form which I have used is the solution of Lugol; but the tincture promises to be equally efficacious. I shall not trouble your readers with the detail of cases, but content myself with having thus stated the results of my experience. The power of iodine in arresting, by its application, the progress of inflammatory action has not received that attention from medical men which it truly deserves. On a late occasion, a gentleman was affected with severe throbbing pain in the socket of a canine tooth, and inflammation of the adjacent gum: the tooth itself having become loose, which was satisfactorily ascertained by the examination of an experienced dentist, the solution of iodine was applied freely to the gum and tooth at bed-time; next day the pain was almost gone; but the patient could not bear the tooth to be firmly pressed: this symptom, however, gradually disappeared, and the tooth again became firmly rooted in its socket.

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* Spectator, No. 317.

Should any gentleman be induced, by what I have said, to make trial of iodine as a remedy for chilblains, I shall feel obliged by his communicating the result of his practice through the medium of the GAZETTE.—I am, sir,

Your obedient servant,
THERAPEIA.

Feb. 29th, 1840.

MIDWIFERY PRACTICE.

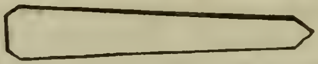
THE following is a summary of the labours which occurred in the practice of Janson the elder, of Ghent, during forty-one years, from Jan. 1, 1797, to Dec. 31, 1837. Thirteen thousand three hundred and sixty-five women bore 13,439 children, of which 6,611 were boys, and 6, 828 girls; out of 157 cases of twins, in 38 they were both boys, in 62 both girls, and in 39 one of each sex; eight twins were born dead; there was one case of triplets, all girls; 859 were natural children. Three hundred and forty-one labours required the forceps, and 484 preternatural labours were terminated by the hand. In 150 the foot presented, in 30 the hand, in 97 the breech, in 20 the breech had descended into the smaller cavity of the pelvis; 2 breech presentations required the application of instruments. In 15 cases the face presented; in two face presentations the forceps was required. In 86 cases the funis presented, and 46 of these children were delivered alive by turning; 38 died through the compression of the funis; and 6 were delivered alive by the forceps, in cases where the funis preceded the head. Seven times the placenta was upon the os uteri. Perforation was performed five times; once the symphysis pubis was divided, and a cure took place; once both mother and child died suddenly, the child being thrown into the abdomen by a spontaneous laceration of the uterus. Superfœtation occurred twice; one child was at its full time, the other three months old. Convulsions and sudden death occurred thrice, and serious hæmorrhage before delivery four times. It is to be remarked that M. Janson practised for fifteen years before 1797, without keeping notes.—*Bull. de la Soc. de Méd. de Gand* and *Schmidt's Jahibücher.*

MR. ESTSLIN OF THE PRESERVATION OF VACCINE VIRUS.

To the Editor of the Medical Gazette:

SIR,—May I be allowed the liberty of suggesting to those of your readers who are engaged in vaccination, the desirableness and the facility of keeping by them such a stock of vaccine virus as will render them independent of the ordinary means of procuring fresh supplies by sending to distant institutions? I am particularly induced to do this, from the repeated applications that have been made to me by the *same* individuals for some of the Berkeley lymph of 1838.

The plan I adopt is the following:—to have from one to two dozen ivory points made less tapering than those in ordinary use, of this size and shape,



nd to charge them all from the first fine and perfect vesicle that presents itself, and then to cork them up in a dry two-drachm phial. If after a week or two another fine vesicle is met with, produced either by some of these charged points, or from a continued course of vaccination with fluid lymph, I recharged the whole set, leaving the original virus upon them undisturbed, and in this manner continue to furnish them with a fresh coating of lymph every two or three weeks as opportunity offers, re-charging such of the store as may in the meantime have been used. In this way, a supply of lymph that may be depended upon for reproducing the disease, will always be at command. I attach much importance to the selection of fine vesicles, before the areola has formed, which the stock points are to be charged. I do not at all coincide in the opinion that lymph is the most active from those vesicles which yield it most scantily: a large pearly vesicle, pouring out lymph abundantly when its cells have been opened, from which two or three dozen broad points can be fully charged, is one upon which I place entire reliance; nor do I believe that the five points first charged will hold more active lymph than the five last applied to the punctured vesicle. In inoculating with broad points, the only certain mode is, to rub off the dry lymph upon the small quantity of blood that oozes from a cluster of minute scratches made with the point of a lancet upon the patient's arm. Fluid matter I always insert by means of a puncture in the skin scarcely sufficient to produce any appearance of blood.

I avail myself of this opportunity of mentioning, that having received from Mr. Ceely some of the small-pox matter which in the course of his beautiful series of experiments he had converted into vaccine virus, I have employed it in seven successive inoculations, and have never seen any vaccine vesicles finer, or more completely satisfactory, during their whole progress, than those produced by this lymph. In no case have I witnessed from the effect of Mr. Ceely's lymph the sore arms, owing to the deep extension of the inflammation into the cellular membrane, that were very common when the Berkeley virus of 1838 was first introduced, and which occasionally occur at the present time. The crusts on the fourteenth day following the use of Mr. Ceely's matter, have had, in all the cases I have seen, the projecting, tamarind-stone appearance, considered so peculiarly characteristic of the genuine vaccine scab. The dry matter retains its infecting property very well: some points which I had charged very moderately, reproduced the disease in its perfect form, at the expiration of seven weeks.

The lymph principally employed in this city is still that from the Berkeley stock, and it continues to give entire satisfaction.

FRANKFORD ASYLUM FOR THE INSANE.[*]

Of the one hundred and nineteen patients under treatment during the first year sixty-three are males, and fifty-six females: seventy-three are single, and forty-six are or have been married. Their classification and the result of treatment, are as follows:

FIRST CLASS.

Patients diseased less than three months at the time of admission, and the first attack		8
Restored	5	
[†]Much Improved	1	
Convalescent,	1	
Died	1	8

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[*] Twenty-third Annual Report on the state of the Asylum for the relief of persons deprived of the use of their reason. 1840.

[†] Was well soon after leaving the Asylum.

Under three months but not the first attack		16
Restored	12	
Convalescent	1	
Stationary	1	
Died	2	16

SECOND CLASS.

Over three and under twelve months		24
Restored	11	
Much Improved	2	
Improved	2	
Stationary	8	
Died	1	24

THIRD CLASS.

Between one and two years		6
Restored	3	
Improved	2	
Stationary	1	6

FOURTH CLASS.

Over two years		65
Restored	4	
Much Improved	3	
Improved	10	
Stationary	48	65

Of the fourth class there are but five who have been deranged less than five years; twelve have been deranged between five and ten; twelve between ten and twenty; ten between twenty and thirty; and four over forty years; four, imbecile from puberty are included in the number.

Where patients are discharged with certificates of "much improved," and convalescence goes on until health is completely restored, the cure may be justly attributed to the means employed at the Asylum.

RECAPITULATION.

Patients in the Asylum 3d month 1st, 1839	65	
Received since	54	119
Discharged or died	60	
Remaining in the Asylum 3d month 1st, 1840	59	119
Of the sixty patients discharged there were, restored	25	
Much Improved	5	
Improved	9	
Stationary	17	
Died	4	60
Of the fifty-nine patients remaining in the House, there are restored,	10	
Convalescent	3	
Improved	4	
Stationary	43	59

Of the seventeen patients *discharged* "*stationary*," eight had been deranged more ten years, two between five and ten years, and three were imbecile from youth.

Of those remaining in the house, *stationary*, four are imbecile, two are Epileptics, one has been deranged over thirty years; ten between twenty and thirty; eight between ten and twenty, and thirteen between five and ten years. One entered the institution yesterday.

Six of those remaining in the house, restored, are waiting until sufficient time has elapsed to test the security of their health, and four are old cases of Paroxysmal Insanity, now enjoying an interval of reason.

Excepting the four cases which terminated fatally, there has been but little serious *acute* disease in the house during the year; and at the present time the patients are nearly all in the enjoyment of good health, with the exception of those lesions of the brain which affect the manifestations of the mind. No accident of a serious character has occurred, and beside the cures which have been effected; the comfort of those individuals, suffering from long standing disease, and who have been brought to the institution with little or no hope of their being restored, has been uniformly augmented, their habits greatly improved, and in many instances their affliction stripped of many of its most distressing characteristics.

In effecting these results, the same combination of medical and moral treatment has been relied upon, which, under the blessing of Divine Providence has heretofore been attended with the same gratifying success. In the medical prescriptions, we have no favourite remedy to be resorted to as a panacea upon all occasions; but endeavouring to become acquainted with the various morbid conditions which characterize each individual case, the effort is made to adopt such a course of therapeutical treatment as they appear respectively to demand.

The amusement of the convalescent patients, and their employment in some manual labour with a view of promoting their bodily and mental health, has of latter years claimed increased attention in our institution; and the beneficial effects constantly arising from them, prove that they are deserving the care bestowed in their promotion. From the more sedentary habits, and the kind of employment to which all females are more or less accustomed, there is comparatively but little difficulty in furnishing them with occupation suited to their tastes; but the introduction of a *general* system of employment amongst a company of men, many of whom have never been accustomed to labour of any kind, is attended with many more difficulties than those practically unacquainted with the subject, are likely to suppose. We have however, by the liberality of the Managers, succeeded within the last year to a much greater extent than at any former period. In addition to our former resources the work-shop has been greatly enlarged and improved, and the manufacture of baskets has been introduced. From both these, the most decided advantage has been gained; many of the patients becoming permanently interested in the occupation furnished by them respectively, have thereby been enabled to pass away their time agreeably to themselves, while the exercise and amusement thus afforded, have contributed powerfully to the restoration of their health. Connected with this subject we may here say, that in conformity with the experience of all other similar institutions which have made the experiment both in this country and in Europe, (numbering twelve or fourteen) we have found no danger in trusting the patients with all such tools as are requisite for carrying on their different kinds of work. No accident whatever has occurred either to them, or to their attendants; nor do we think any need be apprehended, so long as care is taken in the selection of patients to be employed and in having suitable caretakers constantly with them.

During the summer months many of the men spend some hours of the day in working in the garden and on the farm; nor indeed are they wholly debarred from the benefit derived from this kind of employment during the winter, as the care of the stock, &c., affords sufficient opportunity and inducement for some to employ themselves in the open air.—As experience has fully proved that exercise in the open air promotes the more speedy cure of the insane, we endeavour to extend to those under our care its advantages, by making it a rule, that whenever the weather will permit, all the patients who are well enough, shall pass a portion of their time out of doors, and by inducing them to engage in some of the various kind of amusement provided, as playing quoits, ball, walking, &c. Riding in the carriage, and upon the circular rail road, situated in the lawn fronting the house, continue to be favourite sources of health and enjoyment. Most of the patients have continued to meet on one evening in the week during the winter, as a society, for the purpose of engaging in conversation or debate; and a course of lectures on chemistry, illustrated with interesting experiments has been delivered to them by the resident physician.

We have still cause to repeat the complaint so often reiterated in our former reports, that most of the patients brought to the Asylum, have been allowed to suffer under their diseases, for so long a time, before their friends were willing to place them in an institution prepared expressly for the treatment of the insane that the probability of their restoration is materially lessened: and also that after recovery has been effected, in too many instances the friends of the patients are persuaded to remove the individual before sufficient time has been allowed for the brain to have its healthy tone corroborated. An improvement however in this latter respect is taking place.

CHARLES EVANS, *Attending Physician.*
THOMAS WOOD, *Resident Physician.*
Philadelphia, 3*d Month*, 1*st*, 1840.

GENEVA COLLEGE—DR. BOARDMAN'S LETTER.

Dr. BOARDMAN's letter which we insert below is a rejoinder to Dr. Spencer's given in our May number. As the former is confined exclusively to a confirmation of the positions advanced in Dr. B.'s first communication, and opens no new grounds of controversy, we have determined to give it a place. There is a heavy responsibility in undertaking the task of accuser of abuse, of any description; for, unless the accusation be made good, it passes, and not improperly, with the world for slander. On the present occasion, Dr. Boardman is anxious to do himself and the public simple justice in the matter at issue, without the introduction of extraneous or irrelevant topics, to which we should decidedly object.

We avail ourselves of this opportunity to express our belief: that the imperfections in the course of instruction in the Geneva Medical College have more than their counterparts in a number of medical colleges in other parts of the country. If we except the one at Cambridge, there is hardly a medical school in New England organized as it ought to be for conveying adequate instruction on the several branches of medicine, a knowledge of which is now so generally recognised as necessary to a proper medical education.—ED. *Eclec. Jour. Med.*

New York, 20th June, 1840.

To the Editor of the Eclectic Journal of Medicine:

SIR,—In the April number of your Journal appeared some observations of mine on Geneva Medical College, and in the May number some animadversions on them by Dr. Spencer which requires from me a replication. In making it I shall adhere strictly to the matters already in controversy, leaving an undercurrent of petty vexations and disappointments to which the students of Geneva College were subjected for exposition, if necessary, in a medium of inferior gravity.

To Dr. Spencer's remarks on the disposal of the prize medal, it is not for me to reply. My observations on the "*special diploma*" and "*The Western Hospital* alias "*The Geneva Shoe Store*" are uncontroverted; these, therefore, I leave unnoticed, and pass to such things as Dr. Spencer attempts to explain away.

1. I say, in the introduction to my thesis, that not a single lecture was delivered on Medical Jurisprudence. To this Dr. Spencer replies, "several lectures and ample illustrations of the mode of testing persons in connection with legal medicine were given from the chemical chair."

According to the circular of Geneva College the course on legal medicine was to have been delivered by the lecturers on chemistry and anatomy; indeed the latter lecturer received three dollars from each student, about two hundred and forty dollars altogether, in consideration of such lectures. Yet, I reiterate, not a single lecture was delivered. The lecturer on chemistry did, indeed, give tests of substances which are poisonous as well as of such as are not poisonous, but this is a part of *an ordinary chemical course.* He made no remarks on the subject which may not be found in Turner's Chemistry, a work pretending not to convey information on medical jurisprudence. The lecturer on anatomy *did not make a single observation* on the subject during the entire session. As to Dr. Rogers, legal medicine formed no part of his course, and he did not treat of it, except once, parenthetically, in a lecture on Gonorrhœa. All that is claimed, then, is that the tests of poisons were given. They were given as they came up, however, in the chemical course, not as poisons, but as chemical substances; but granting that this be considered part of a course on legal medicine, how small a fraction does it constitute! What becomes of symptoms, remedial measures, morbid and *post mortem* appearances, the preventive and penal laws as regards even poisons: but suppose poisons to be fully treated of, how small a part of "a course" do we yet possess; pregnancy, abortion, infanticide, wounds, feigned diseases, suspended animation, insanity, and numerous other subjects remain unnoticed.

2. I said not a single subject was provided for *dissection.* This is not explicitly denied, but it is said there were "five subjects altogether." Now, *three* of these subjects were disposed of before the anatomical course commenced, being used in the surgical department. One of these came from Auburn state prison, the other two were obtained at Dr. Roger's private expense from New York, where, as is well known to all the professors of Geneva College, any required number of subjects may be obtained with facility, at twelve dollars each unpacked, or twenty dollars each, packed and forwarded, by transmitting funds for that purpose. I said that but *one* subject was used by the anatomical professor; Dr. Spencer says *two.* Let us see. One subject, a very poor one, as the professor (of anatomy) frequently remarked, was kept on the table *seven weeks,* rendering the air mephitic: the brain was not taken out, but allowed to putrify, so there would have been no chance for a demonstration of the brain, had not a convict died at Auburn prison just as the session was about to close, and the brain was used in lieu of the one needlessly wasted, and then the entire subject, except the brain, was packed up and sent to Rochester to be employed in a private dissecting-room.

3. I said that no *course* on physiology was delivered. Dr. Spencer says "*it can hardly be conceived* that a course on anatomy can be given without *combining physiology in the illustrations;*" and would such *unavoidable* combination constitute a course on anatomy *and* physiology? Surely not. But I answer further, that what Dr. Spencer thinks inconceivable was most perfectly accomplished at Geneva College. Can the gentleman have forgotten that the professor of anatomy omitted from two to five lectures almost every week for two months? Can he have forgotten the remonstrances of the students? Can he have forgotten the embassy which he sent to oak corner? Again, Dr. Spencer says "*a course* of physiology in connection with general pathology was given from another chair." This is the *fact.* In the early part of his course on Theory and Practice, Dr. Spencer remarked, "as the lectures on physiology have not commenced, I shall be under the necessity of making some general physiological explanations in order that my pathological ones may be understood." This was judicious, and

he accordingly made the explanations which have so suddenly assumed the dignity of "a course." The circumstance of his devoting a whole lecture to respiration and calorification, subjects which would of themselves take more time adequately to elucidate than was occupied by his whole "course," is thus explained. He deems himself to have conceived a theory of calorification superior to any previous one, namely, that the carbonic acid gas of the arterial blood unites in the capillaries with the hydrogen of water, the oxygen being set free; that these elements form a solid hydrate of carbon, during the solidification of which the caloric is evolved which constitutes animal heat. The doctor's elucidations not being well understood by many of the class, he was requested to repeat them, and I was appointed one of a committee to convey that request.

4. In one unimportant particular I made, by implication, a slight mistake. I said that the chemical lecturer was a doctor of divinity. He is; but it seems that he has a medical diploma, though not a practitioner; of this I was unaware. D. D. is alone attached to his name, and he has for years been exclusively connected with classical institutions. The circumstance of his being a doctor of divinity was merely mentioned as a subsidiary fact to account for his unpreparedness. The *unpreparedness itself* was the great and important point, and this remains untouched, although the words Doctor of Divinity be considered as complete surplusage, as the phrase "universally satisfactory" which Dr. Spencer applies to the chemical lectures. In speaking of this subject, Dr. Spencer uses an expression, perhaps inadvertently, which is erroneous; he says that "the chemical professor *has been*, for several years, a professor of chemistry in a New England college." The term *has been* brings down the duration of such professorship to the present time, and implies its continuance: thus, were I to say, "Dr. Bell *has been*, for several years, the editor of the Eclectic Journal of Medicine," it would rightly be inferred that his labours continued up to the present time, and were still going on. It is not true that the gentleman referred to has been for several years a professor of chemistry, though it may be, and probably is, true that he *was* such many years ago, and I doubt not that he *was* popular when he had ample time for preparation.

5. On another matter I will now introduce a note which I received from Professor Rogers.

Lounsbury Cottage, *Rye*, *June* 15, 1840.

MY DEAR SIR,

I have read in the *Eclectic* the singular letter of Dr. Spencer which you forwarded to me. My publshed letter was sufficiently explicit, I think, as to the reasons of my course in reference to the prize medal, and if you answer Dr. Spencer, it is only necessary to add, that before the decision I read the preferred thesis *sufficiently*, that the next day I read it thoroughly, and became more confirmed in the opinion I had formed; that I refused a formal re-consideration because I had learned to my own satisfaction, even before the meeting commenced, that your thesis was to be rejected *at all events* on account of its heresies; that I am now convinced that this was done in order to its entire suppression, as in a late visit to Geneva Dr. Spencer expressed his surprise, that you had published it without leave from the faculty. In his letter he reports some recollections of his; he should have told all, then he would have recorded the fact that I proposed the submission of the two thesis to referees on the stipulated condition, and offered to bow to their decision; he would then have recorded that I offered to be governed by *their own* decision if they would publish your thesis and the prize thesis together, I being at half the expense. Let them now publish the prize thesis as it was presented to the faculty, and leave the profession to decide.

I would just observe, in relation to the supply of subjects, that I offered to procure (a very easy matter) at my own immediate expense, any required number of *cadavres*, if they would agree to let the students have them at a reasonable price.

Yours sincerely, DAVID L. ROGERS.

I have now, I think, indicated my statements, and shown them to be in all essential particulars a correct, fair, and uncoloured series of facts such as no astuteness can weaken.

Yours, most respectfully, ANDREW BOARDMAN.

WHITE SULPHUR SPRINGS.

In fulfilment of a promise made in our March number, when noticing the pamphlet of Dr. Haywood, entitled "*Remarks on some of the Medicinal Springs of Virginia,*" we make the following extracts which give an account of one of these springs.

"The most celebrated of all the Virginia springs, and probably the most powerful, is the White Sulphur, which is 35 miles beyond the Hot Springs, and 6 miles west of the Alleghany Mountains. Though situated in a valley, it is, like all the springs in that neighbourhood, in an elevated position, with a delightful climate in summer, and surrounded with mountainous scenery of great beauty. Independently of the benefit that may be derived from the medicinal waters, a better situation for an invalid during the hot season can hardly be imagined. It has the advantage of a salubrious and invigorating air, an agreeable temperature, cool at morning and evening, the thermometer ranging at those periods during the summer, between 50 and 60 degrees, and rarely attaining a greater height than 80 degrees at any part of the day, and an elasticity in the atmosphere that prevents the heat from being at any time oppressive, and enables the invalid to take active exercise in the open air during the day without fatigue.

"This spring was known soon after the settlement of that part of the country, which took place about 70 years since. It is said to have been a favourite Moose Lick, and that hunters resorted to it in pursuit of this animal. In this way its medicinal properties first became known; but in consequence of the thinness of the population and the badness of the roads, it has not, till within a few years, been much frequented.

"Though the odour and taste of the water, from its being strongly impregnated with sulphur, are disagreeable to most persons on first using it, I noticed that the dogs, that are kept in great numbers at the Springs for the purpose of hunting, seemed to be very partial to it. I was scarcely ever at the spring that I did not see one or more of these animals lapping the water with great apparent relish as it flowed from it.

"The water, of which there is an abundant supply, is at a temperature of 60 degrees throughout the year. It is very transparent and slightly sparkling, from the gases which it contains; these are sulphuretted hydrogen, carbonic acid gas, nitrogen and oxygen. Bubbles of air, principally nitrogen, are constantly rising to the surface of the water and escaping from it, in the same way as in the Warm and Hot Springs. Its other contents are lime, magnesia, soda, iron, organic matter and precipitated sulphur. This latter ingredient seems to be very abundant, and a copious deposit of it may be seen at all times at the bottom of the spring, though it is usually cleaned out every few days. From the white appearance of this deposit the spring takes its name.

"The water of the White Sulphur Spring no doubt possesses medicinal properties of great power. Multitudes who resort to it annually are benefited by its use, while a few, perhaps, deriving no advantage, are inclined to believe that the water has no remediate powers. But it should be recollected that these waters are not calculated to relieve all cases, and that in those where they might be useful, they may prove mischievous if not judiciously taken. Many persons, immediately on arriving at the springs, drink the water immoderately, and not a few suffer for their rashness. When taken in this way it is said to produce a powerful determination of blood to the head, attended with pain and dizziness, and sometimes followed by severe cerebral symptoms.

"Though this water is nauseous to most persons on first drinking it, a relish for it is soon acquired, and in a short time, in most instances, it becomes a favourite beverage. I met with several individuals, in perfect health, who declared to me that they preferred it to any other liquor, and drank it merely as a luxury.

"It is said to act on the kidneys, the bowels, the liver, and the skin. As a diuretic, its effects are very soon apparent, but it usually requires some days before it produces a decided action of the bowels. Its operation on the liver, too, is not manifest for some time, and where there is a great torpor of this organ, some auxiliary means may at first be required. Its effect on the skin is very apparent, though not immediate; after drinking the water a few weeks the perspiration becomes strongly impregnated with sulphur.

"The use of this water is no doubt beneficial in a variety of affections, and I am inclined to believe that it will be found signally useful in those functional derangements of the digestive organs, which are so common, and at the same time so unmanageable, especially when they are connected with disturbance of the liver, or a torpid state of the bowels. The whole tribe of dyspeptics, if their trouble be not the effect of organic disease, may resort, with a well-grounded expectation of relief, to these healing waters.

"Another numerous class of patients, known under the very common, but not very significant name of bilious, is said to find, very often, relief from them. Many persons of this description come to the springs from the south and south west, whose constitutions have been shattered by the diseases incident to the climate, and they almost invariably derive benefit from a residence there. In such individuals there is, hardly without exception, some derangement of the biliary secretion, consequent very often on intermittents and other fever of the country.

"Chronic rheumatism is a disease from which relief is, in very many instances, obtained by a resort to this spring. In this case great advantage is derived from the external as well as internal use of the waters, and for this purpose an excellent bathing house has this year been erected, with every convenience for using the bath in every form and at any temperature that may be desired.

"Cutaneous eruptions of various kinds are frequently removed by a similar management.

"Many of the distressing symptoms, which are by no means the unusual attendants of chronic affections of the urinary organs, are in many cases alleviated, and in some entirely removed, by a judicious use of the White Sulphur Water.

"There are other maladies over which, it is said, it exerts a favourable control. But it is unnecessary to enumerate them, partly because I cannot speak from personal knowledge, and partly because I suspect that in some of them the advocates of the springs may have exaggerated the virtues of the water.

"But of this much I feel confident, that these springs will, in a majority of cases, be useful not only in those diseases which I have named, but also to that numerous class of patients who are affected with debility connected with functional derangement, or that which is consequent on previous disease, or excess and imprudence in living. All persons who resort to the White Sulphur Spring for the purpose of health, would do well to consult Dr. Moorman, the resident physician, who is well qualified to advise as to the mode of using the waters and the cases to which they are adapted. They will find him to be an intelligent and well-educated physician."

SWEET SPRING.

Mr. Perkins, in his introduction to Dr. Huntt's pamphlet which he caused to be reprinted and circulated, and to which we have already referred, thus speaks of another of the Virginia Springs:—

"The last of the watering places of which I shall speak, is the Sweet Spring, belonging to Dr. Lewis, who resides at them. The road to the springs from the White Sulphur is seventeen miles, by a turnpike road, ten miles of which is through a valley, the foot of the mountains so nearly meeting, that the road is cut through the side of the mountain in many places. The other seven miles are through the Valley of the Sweet Spring Mountain, which is cultivated, and is now burthened with heavy crops of grain, potatoes and grass. I have seen no printed account of these springs; the account I have of them is from a source not to be doubted. These waters were discovered before any of the mineral waters in this part of Virginia were known, in 1764. In 1773 they began to be noticed as a watering place, and in 1774 were analyzed by Bishop Madison, then president of William and Mary College, but which analyses I have not seen.

The water is at 74° of Fahrenheit. The baths for both male and female visiters are under the same roof, divided by a brick wall in the centre, and each about twenty feet square, and the water four and a half to five feet deep. In plunging into those waters, there is a slight shudder, which in my case, and indeed generally, was succeeded by a delightful glow. One is very much induced to linger in the bath, from five to ten minutes, in most cases, are found better than longer. My informant says the waters are good in all cases of dyspepsia, in chronic diarrhœa, inflammation of the kidneys, in destroying calculus in the bladder; highly efficacious in diseases incident to females; and in many cases where other waters have proved ineffectual, these springs are generally visited, after the waters of the other springs have been used. They are therefore resorted to more after the beginning of August than earlier, and the visiters from the south frequently remain here till October. The part of the valley where the springs are situated is highly cultivated, and very productive; the grounds are beautiful, and attention has been paid to preserving the magnificent oaks, sugar trees, and others which are on the grounds.

"The residence of visiters has hitherto been in the cabins or log houses, which were formerly the dwellings of all who visited any of the Virginia springs. Dr. Lewis has just now finished a house which for architectural beauty and accommodation is superior to any house built for the same use, in the United States, *that I have seen*. It is built of brick, has two stories, besides a basement, which is appropriated to kitchen, bake and store rooms, with offices for various purposes; the piazza, 17 feet wide the whole length of the building, stands on brick arches, and is reached by three sets of steps of black walnut the width of each of the three porticoes, by which the front of the building is ornamented. The principal story has a dining room 160 feet long, at one end of which is a ladies' drawing-room, and at the other end a dancing-room; they are each the whole width of the building, which is 48 feet, and 40 feet deep. The whole building is completed by this time. In the principal story three are 36 bed-rooms, with an entry between them; they are about 14 feet square. The building has quite an imposing appearance. As those baths are popular with those who have used them, I am in hopes the Doctor has not furnished accommodations beyond what are required."

ANNUAL CATALOGUE OF THE OFFICERS, STUDENTS, AND GRADUATES OF THE MEDICAL INSTITUTE OF LOUISVILLE, FOR 1839–40.

PROCEEDINGS OF THE PRESIDENT AND FELLOWS OF THE CONNECTICUT MEDICAL SOCIETY IN CONVENTION, MAY, 1840. With a list of the Members of the Society.

THE class during the last session of the Louisville Medical Institute, numbered 201 students, being an increase of 84 over the preceding class. The graduates who received their degrees at the last commencement, March 10th, 1840, were 39 in number. We note a change in the Faculty, in the substitution of Dr. Gross for Dr. Flint in the chair of Surgery. In a brief, but well and pointedly expressed Address to the Graduates, by Dr. Drake, notice is taken of additions and improvements in the materials and means for teaching.

The following officers, as we learn from the Proceedings of the Connecticut Medical Society, were elected for the ensuing year: Silas Fuller, M.D., *President;* Elijah Middlebrook, M.D., *Vice-President;* Archibald Welch, M.D., *Secretary;* Luther Ticknor, M.D., *Treasurer*. The names of the members and officers of the several county societies in the state are also printed. A tax of one dollar and fifty cents is laid on each member of the Society. The whole number of members in the state is 315 taxable and 31 not taxable. The exempts have become so, we believe, on account of their age.

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DISEASES OF VEINS.*

General Remarks—Symptoms—Treatment.—Inflammation or Phlebitis—*Characters—Local Signs—General Symptoms—Treatment.*—Air in Veins.

The structure of veins differs from arteries in more than one respect: their parietes are thinner and more flaccid; they are deprived of the fibrous tissue which gives to the arteries their elasticity, their form, and their aspect. They are composed of only two distinct tunics; the one, external, fibro-cellular, firmer more resistant, yet very extensible, composed of longitudinal fibres, to which the veins owe their solidity: the other, internal, very thin, very smooth, polished, fragile, but more cellular than that of the arteries, forms, by its duplicatures, the valves which belong exclusively to this order of blood-vessels. It is sufficient to recollect the precautions which we are obliged to take in blood-letting, to feel that venous hemorrhages may be spontaneously arrested; and the consequences of this operation prove that veins are not obliterated in this process.

The experiments of Travers on this subject are interesting and important. When we prick a vein through which blood circulates, a very little blood escapes, and the wound is soon cicatrized. If an incision of trifling extent be made, the result is similar, except, in some cases, when there is a slight interval between the lips of the wound, and a small quantity of blood escapes; this may flow to the surface when the vein is superficial, or may infiltrate the adjoining tissues, if it be deep seated: in this case the cicatrix is more apparent than in the former, though still linear. But, if the wound be large, the fluid escapes, at first, abundantly; after a certain time a clot is formed in the opening, which it obliterates, whilst a certain quantity of extravasated blood passes into the cellular sheath, and coagulates, so as to constitute an external clot surrounding the vessel. At the end of twenty-four hours the lips of the wound, which has taken an oval form, are everted, and adhere to the clot without being red, and apparently without secreting coagulable lymph. In a short time a membraneous expansion unites the clot to the vessel, the clot becomes soon organized, so that in twelve days, with the aid of a lens, blood-vessels can be discovered ramifying in it. If we make a transverse section of a vein, the blood escapes in a considerable quantity, and, if more than half the circumference be implicated, it is not easy to arrest the hemorrhage; the blood escapes rapidly into the cellular sheath of the vessel, and into the surrounding tissues, and forms a clot which is interposed between the opening of the vein and the external wound; but the circumstances of cicatrization are the same as in arteries. In all cases the extent of clot which blocks up the opening is proportioned to the gaping of the wound. These remarks apply to the cicatrization of wounds, such as result from venesection either in man or the horse. Thus, according to Travers, that which characterizes the cicatrization in wounds of veins, and distinguishes it from the mode of cicatrization in wounds of arteries, is, that wounds of veins, when the edges are in contact, heal by first intention ; at first, by means of a clot which forms between the lips of the wound, without projecting into the cavity of the vessel, and afterwards by means of a membrane which becomes organized. During this period the only trace of inflammation is the tumefaction of the lips of the wound within the vessel. My own opinion differs from that of Travers : I readily admit that venous parietes exhibit no very marked disposition to secrete lymph ; still I have no question that lymph is secreted, and is the ultimate bond of union ; that the membrane, described by Travers as at first connecting the clot with the lips of the wound, and afterwards stretching across, is the result of the transformation of lymph.

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* Lectures on the Principles and Practice of Surgery. Delivered at the Westminster Hospital School, by Benjamin Phillips, F.R.S., Surgeon to the St. Marylebone Infirmary.

Travers has made experiments on the ligature of veins, from which it resulted that the internal tunic is not divided by the action of the ligature, but that it left a circular mark which some persons had mistaken for a solution of continuity. The external alone appeared to be cut. The part of the vessel nearest to the heart becomes completely empty, the opposite part is distended, the fluid coagulates for a considerable distance, and the coagulum becomes adherent to the venous parietes. Externally, around the ligature, lymph is deposited, and the surrounding tissue is infiltrated with the same fluid. Towards the ninth day the venous tunics begin to change, and, from the fifteenth to the twenty-fifth day, the ligature is detached, the extremities of the vessel are retracted, and an interval exists between them. In a young horse the ligature was not detached before the twenty-fifth day ; and Travers ascertained that the extremities of the vein had not suffered any other contraction than that which resulted from the action of the ligature. The internal tunic was examined, the clots were carefully removed, and no thickening of the parietes or any vestige of inflammation was discovered in any part of the vein. According to Liston, no adhesion takes place until the ligature has produced ulceration, and then the canal may become obliterated.

Veins, being more superficial and less protected than arteries, are more frequently wounded ; but the hemorrhage consequent upon such wounds has not occupied much attention, though occasionally the consequences are most serious ; especially when a large vein is about to penetrate into a splanchnic cavity ; it may even be more dangerous than the wound of the principal artery of a limb, because, if the blood continue to flow, the patient may die from loss of blood ; and if, to suspend it, the section of the vessel be completed, the patient may die from mortification, in consequence of blocking up the only way by which it could return.

Venous hemorrhage is recognised by the following characters :—the blood is dark ; it wells out, or by a feeble jet ; the quantity increases if the muscles of the limb be contracted ; if we compress the vein between its radicles and the wound, the hemorrhage is arrested ; it is increased if pressure be made between the wound and the heart. When it is a question of a principal vein of a limb, or of one of the cavities, death may be the consequence of the loss of blood. Certain diseases of veins cause the accumulation of so large a quantity of blood, that when they are opened very abundant and dangerous hemorrhage is the consequence. Many cases are on record of fatal hemorrhage following the bursting of varicose veins. Although these may not strictly be called cases of traumatic venous hemorrhage, yet a wound inflicted upon such a vein might, I apprehend, produce similar results.

Treatment.—The means proposed for arresting venous hemorrhage are less varied than those employed in wounds of arteries. The most important condition to fulfil is to ascertain the cause. The depending position of the part increases the lateral efforts of the column of blood, and is a cause of the continuance of a hemorrhage. It is, therefore, of the highest importance to ascertain whether respiration, position, or other circumstance, tends to keep it up It is always wise to attempt to preserve the canal of the vessel, and this is often done when compression alone is sufficient to restrain the hemorrhage. The application of the compresses in the common operation of bleeding at the bend of the arm is a proof of that. If compression be not applicable or effectual, and the wound is very narrow, an attempt may be made to get hold of the vein with a tenaculum, passing it through the lips of the wound, placing a ligature around that point, and thus preserving, as far as practicable, the continuity of the canal. At the same time the cure must be assisted by the position of the part, which, by facilitating the passage of the blood, diminishes its lateral pressure, and lessens the tendency to escape. When a vein is completely cut through, it cannot continue to be a channel of communication ; it is, therefore, proper to attempt to obliterate it. Sufficiently energetic compression may be applied to the part ; and if that do not suffice, each end may be included in a ligature. It not unfrequently happens, after amputation of the lower limb, that a vein continues to pour out blood upon the surface of the lymph : in this case the ligature is necessary, which, if the patient be in moderately good health, may be a less dangerous means than was supposed by Travers ; still it is not an operation which should be heedlessly performed, because the occurrence of phlebitis after it has unhappily been but too frequent.

PHLEBITIS.

Injuries of veins may be followed by inflammation of those canals, which is an extremely grave disease, the symptoms of which Aretæus briefly pointed out. This subject has occupied a very large portion of the attention of medical men since the time of John Hunter. In examining the bodies of two horses which had died suddenly, after bleeding, he found the internal surface of the veins inflamed. Having occasion to open many abscesses, occurring in a man who had been bled at the bend of the arm, he found that they were developed in the course of the venous trunks, but that pus was also contained within the veins. In another case, a person, having died on the eighth day after bleeding, he found the internal surface of the vein covered with lymph. It is also developed after parturition, excision, and ligature of varices, amputation, lithotomy, &c. To be well acquainted with the ordinary characters of phlebitis, it should be observed after bleeding. Some hours after the operation, a prickling sensation is felt at the puncture, soon it amounts to pain, the little wound gapes, its lips are slightly tumefied, and sanies or sanious pus escapes from it. If all should go on well, this gradually subsides, and, by the seventh or eighth day, all is dissipated. If, on the contrary, the disease proceed, pain is manifested along the vein, it soon becomes tensive, and swelling extends to the whole limb. If the vein be superficial or projecting, the skin is reddened along its course, the pain and tension increase, the course of adjacent veins is marked by a redness of the skin over them, the tumefaction increases, becomes œdematous, the inflammatory action extends towards the heart, the vein appears like a hard knotted cord ; motion of the limb is then painful and difficult, the cord becomes thicker, abscesses are sometimes formed around it, and erysipelatous redness is occasionally intense. But too often it happens that pus finds its way to the viscera, and the symptoms become very urgent. Severe rigors, sometimes continuing for hours, are felt, the skin becomes pale or yellow, and there is rarely much reaction. After two or three paroxysms, typhoid symptoms are commonly developed. The eyes look hollow, the conjunctiva yellow ; the tongue, which continues moist, is not deeply coated until the later stages of the disease ; the teeth and lips become fuliginous, the pulse, at first hard and frequent, becomes small and feeble, tympanitis, or diarrhœa, rarely delirium, supervenes, though there is a good deal of stupor. In some cases there are vague indications of visceral inflammation. Sometimes there is a livid spot on each cheek, short frequent cough, pain in the chest, and difficult respiration ; sometimes icterus, with pain over the liver, or in the right shoulder ; sometimes vomiting and gastric irritation ; and the breath is very fœtid, yielding a purulent odour. Cicatrization of the wound is suspended ; suppuration becomes grayish, or even entirely suppressed, and the subject dies exhausted in two, three, four, or five weeks. The post-mortem inspection reveals two species of lesion ; those belonging to the vein or veins themselves, and those which are a consequence of phlebitis. We see the vein transformed into a reddish cord; the cellular tissue connected with it is infiltrated with a sero-purulent fluid: the redness and vascularity of the external tunic is very decided, and very characteristic. The interior of the vessel may contain blood or pus, the inflammation may produce obliteration by means of the clot, the pus may be limited by a clot, the vein may be perforated, or the pus may circulate with the blood. In the latter case, a large number of visceral abscesses are produced.

The consequences of phlebitis had been greatly discussed at a much earlier period, but the disease which gave rise to those alarming symptoms, the consequence of "purulent absorption," was comparatively unknown; and even when ideas on the subject were becoming more defined, a great struggle took place between the partisans of phlebitis and those of purulent absorption. The difference between the doctrines was not great: both started from the same point, a wound or operation—both admit a change in the blood—both maintain that this alteration proceeds from the admixture of pus with the blood; their difference consists simply as to the manner in which the pus gets access to the blood. The doctrine of phlebitis implies a direct passage—an immediate admixture. The doctrine of purulent absorption maintains that the passage is indirect, and the admixture consecutive.

In the Transactions of a Society for the Improvement, &c. (1793) are the ingenious experiments of Hunter on the subject of phlebitis. He considered not only the local effects of inflammation upon the internal tunic of veins, but also the general effects.

Phlebitis belongs at the same time to medicine and surgery; there may be a traumatic phlebitis, and a spontaneous phlebitis. The first effect of all phlebitis is to produce coagulation of the blood, and adhesion of the clot to the parietes of the vessel, This is observed whether the affection be traumatic or spontaneous. From the interruption of the circulation in an inflamed vein results the stagnation of the venous blood, and the effusion into the adjoining tissues of a certain quantity of serosity. Phlegmasia dolens after parturition, as well as after phlebotomy, may be considered as a characteristic sign of phlebitis; and this œdema is usually proportioned to the derangement of the venous circulation of which it is a consequence. Besides the œdema, phlebitis is characterized by the presence of a hard, painful cord, easily circumscribed, and following exactly the course of the vein. The greater number of cases of phlebitis, even when left to themselves, do not pass that limit which has for result the coagulation of the blood, and its adhesion to the parietes of the vessel. This may be termed *adhesive phlebitis*, and this happens as often as veins are cut through.

Adhesive phlebitis is a simple unimportant disease, and its effects are limited to the affected point. Gradually the serum contained in the clot is absorbed; then the colouring matter; and only the uncoloured fibrin remains. Sometimes this becomes organized; sometimes it is entirely removed; but in both cases the vein is obliterated. Now and then it happens that a canal is formed in the centre of the clot, and the blood circulates through it. The formation of compact adherent clots occasions no inconvenience, and does not even manifest its existence, unless it occupy a certain extent, and interrupt, to a greater or less extent, the circulation of corresponding parts. Thus, phlebitis of the sinuses of the dura mater is necessarily mortal in this first period, because the venous circulation of the brain is more or less completely intercepted. Phlebitis of the femoral vein, or the external iliac, produces œdema of the limb, and may occasion gangrene.

Suppurative phlebitis is, in its first stage, similar to *adhesive*. An adherent clot is the first stage, suppuration is the second. There are conditions, which cannot be clearly defined, under which a tendency to suppurative phlebitis is determined, whatever care may have been bestowed on the case; there are others, in which it seems to be the consequence of improper treatment. Certain miasmatic or individual peculiarities seem to determine it; among these are the causes which favour hospital gangrene, or typhus. Some persons, however, believe the typhus, in these cases, to be a consequence of the presence of pus in the veins.

Though very intense, if properly treated, adhesive does not often end in suppurative phlebitis. A great cause of this termination is an improper interference with wounds—with parts already inflamed. Attempts, for instance, made day after day to remove a sequestrum or a spicula of bone; or the plugging up of a wound to arrest secondary hemorrhage.

Local signs.—The local signs of suppuration in veins are, first, when slight, red patches apparent on the inner surface of the vein; when more intense, instead of being thus marbled, it is uniformly red; it is thickened so that, when a section is made, the vessel remains open. The internal surface is sometimes smooth, sometimes unequal or ulcerated. In the arm, two days after bleeding, I have known the veins to look fleshy, and much thickened, their interior filled with pus, which is deposited not between the vein and the clot, but at the centre of the clot; and, by some persons, it is believed to be a change which the clot itself undergoes—first it is grumous, then sanious, then whitish, opaque, phlegmonous. This presence of pus at the centre of the clot, Cruveilhier believes to be a phenomenon of capillarity; that, like a false membrane, the clot serves as a filter, through which the pus passes. Sometimes this apparent suppuration is no doubt a softening of the fibrin itself. Suppurative phlebitis may not pass beyond this stage, and its existence may not be manifested by any symptom. If it proceed farther the coagulum diminishes, and the pus augments. Soon the vein is filled—distended with the fluid; but it is rarely that pus occupies uninterruptedly a large extent of the vein—the inflammation, varying in intensity, at one point may be adhesive, at another suppurative. Other circumstances occur. If the disease continue to be local, the vein is distended, knotted; this distension may be so great as to give rise to the idea of abscess: the venous parietes may give way, the pus be effused into the surrounding tissues, constituting abscess, and opening externally, the vein being destroyed to some extent, and not easily discovered.

It is well to distinguish between inflammation effecting the internal tunics of a vein, and that of the external or cellular; often they coincide, sometimes they may occur isolatedly. Rarely does inflammation of the cellular tunic end in suppuration; still there are examples of it. When suppurative phlebitis is limited by adhesive phlebitis, only local phenomena are manifested; that portion of the vein in which the pus exists is cut off from the general circulation. Among other examples of this we may mention the following:—Soon after parturition, a woman had phlebitis of one of the superficial mammary veins. It was hard, cord-like, and painful, extending from the external to the internal margin of the gland, a little above the nipple. A fluctuating point was presented, it was opened, and the vein was completely emptied; the projection which it had formed being succeeded by a groove. In fact, whatever extent of a vein may be affected by suppuration, provided it be limited by adhesive inflammation, local accidents alone will be presented.

This pus may be absorbed, as in any ordinary collection, and carried off by ordinary means; it may distend and thin the vein so as to allow of its destruction, and so cause abscess, which may be mistaken for common abscess: but as soon as the barrier formed by the clot is broken down, and the pus is mixed with the circulating blood, typhoid symptoms are immediately manifested, preceded by intense rigors, and soon followed by death. Frequently we find in a morning the condition of a patient desperate, whom we had left pretty well the preceding evening.

If we examine the internal surface of a vein at different periods of phlebitis, we never find upon its surface the ordinary traces of inflammation, that is to say, injection of the capillaries; the red colour, which is seen, looks more like the effect of imbibition—probably a post-mortem result, and only seen in the first stage. As the colouring matter of the clot is absorbed, the red colour of the surface of the inner tunic diminishes, and is entirely absent when pus exists in contact with it. It is important to carry this in our mind, because it is upon the absence of these signs of inflammation that the principal argument of those persons is based, who maintain that the pus found in a vein has not been formed there, but in some other part of the system, from whence it has been brought by absorption: but we cannot forget that there are membranes which are not susceptible of injection, neither in the healthy nor morbid condition; such are the serous membranes, the cellular tissue, and the internal membranes of veins. In the absence of an adherent clot, and of pus in a vein, it is by the vascularity of the external tunic, the cohesion and fragility of the external cellular tissue where lymph has been deposited, that we discover traces of venous inflammation.

General symptoms.—The *general symptoms* of phlebitis, as we have seen, are those which are usually attributed to purulent absorption; namely, extremely marked typhoid symptoms, under which the patient sinks with more or less rapidity. Upon examination after death, we find circumscribed purulent collections in the lungs, liver, spleen, brain, muscles, synovial and serous cavities; and, what is most singular, often unaccompanied by any local appreciable sign in the unaffected organ. Now, what happens here? Is there a development of preëxisting tubercles? Is there purulent absorption—pus being taken up, as pus, from the surface of a wound, and deposited in different organs? or, Does the presence of these collections presuppose the existence of suppurative phlebitis in some other part of the economy, a consecutive phlebitis being developed at the point where the abscess is found?

The first inquirers who sought to discover the cause of death after great surgical operations, have pointed out the existence of internal abscesses in the principal viscera, particularly in the lungs and the liver. Modern inquirers having observed the frequency and the gravity of these lesions, did not hesitate to ascribe to these causes the frequency of death; and whilst the surgeons of the last century continued to observe the wound, and exclusively sought, in the different appearances of the wound, the explanation of all the circumstances which succeed in the course of treatment, the better educated men of the present day, studying the local as well as the general condition, see in the different qualities of the pus, its quantity, and the colour of the integuments, a pretty certain index of the state of the viscera.

It is very difficult to explain visceral abscesses as a consequence of surgical operations, though operations are often performed on persons whose general health is good, and in whom we cannot admit that visceral lesions, so grave as those we meet with, can have existed before the operation. Still as, on the one hand, observation shows that a great many organic lesions may exist in a latent state; and as, on the other hand, visceral abscesses, consequences of wounds, present by their multiplicity, their seat, and other circumstances, a great analogy with suppurating tubercles, many persons have maintained that these abscesses were no other than the result of the development of preëxisting tubercles. If this theory ought not to be adopted as a general rule, neither should it be repulsed in all cases. Our own opinion is, that it should not be admitted as a general rule: unquestionably, in most cases, around these abscesses phlegmonous inflammation may be detected, without tubercles or tubercular infiltration.

Visceral abscesses being generally consecutive to wounds, it was natural to admit between them a relation of cause and effect; the question to consider is, how a wound which suppurates, determines purulent collections in the lungs, the liver, and so on? The first idea which was adopted was a pure and simple transport of pus from the wound into the viscus, or metastasis. This doctrine was supported on the following grounds:—The diminution or suppression of external suppuration, which is the constant prelude to the formation of internal abscess, the absolute identity of the pus on the surface of the wound, and that in the abscess, the absence of general and local symptoms to indicate visceral inflammation; the rapidity with which these abscesses are formed; the presence of pus in the veins, and in the right cavities of the heart, in the midst of coagula. If we admit this doctrine, we must go a step farther, and ask, how is the pus conveyed from the wound to the heart? Reasoning rather than facts has been used to answer that question. The veins, it is said, absorb and convey it; the lymphatics have, it is said, performed the same office; and some persons believe that both participate in it. Velpeau, Marechal, and Legallois, admit, that pus secreted in the substance or upon the surface of the body may be absorbed, circulate with the blood, and be deposited in the substance of this or that organ, without previous inflammation of that organ. The facts they invoke in support of their opinion are undeniable as facts; what we object to is their mode of interpreting them. They have seen pus in the veins, in the right cavities of the heart, in the midst of clots of blood, in the lymphatics; others have done so too, and even in the lungs, liver, brain, spleen, muscles, synovial cavities, without any traces of surrounding inflammation. But this pus, so observed, may it not be formed at the point where it is found? May not the pus in a viscus be a consequence of circumscribed inflammation of that viscus? The diminution of secretion on the surface of a wound, may it not be the effect rather than the cause of the internal lesion? Unquestionably that would be the most rational interpretation: such was the opinion of Quesnay, Morgagni, and Dance.

The reasons which appear to us to favour the opinion that the pus is formed at the place where it appears are, that the formation of visceral abscesses is almost always accompanied by general symptoms, of a more or less grave character, which cannot be explained by the state of the wound. The absence of local symptoms in the situation of a viscus does not testify to the absence of inflammation of that viscus. Unquestionably a certain number of abscesses do not present, at the circumference of the cyst, any trace of inflammation. As to the rapidity with which the pus is formed, there is nothing astonishing in that, the duration of the disease being usually five or six days at the least.

Visceral abscesses are frequently idiopathic—formed in the substance of a viscus by inflammatory action. They are large tubercles, consequences of pneumonia or lobular hepatitis: this was Morgagni's doctrine. We must proceed further, and endeavour to ascertain the mode of formation of pus in a viscus as a consequence of wounds. Every foreign body introduced into the venous system determines, when it cannot be carried off by the emunctories, visceral abscess in all respects similar to those which succeed to wounds or surgical operations; and these abscesses are a consequence of capillary inflammation in the organ where they are found. If we inject an irritating fluid into the femoral vein, if the collateral vessels do not carry the fluid into the circulation, (in which case death rapidly follows,) at the end of thirty-six hours the limb is tumefied; and at this time, if the animal be destroyed, numerous clots will be found in the muscular and cellular tissue of the limb, and the larger veins are distended with adherent coagula. If the animal survive this period, pus or softened fibrin replaces the clots within and without the vein. If we divide the muscles, small collections of pus are seen, (it may be expressed from the small veins with great facility,) and the synovial surfaces present purulent synovia.

In such cases the disorder may be local. It is important to ascertain what becomes of the pus, in local phlebitis, when it gets into the circulation; but as it is difficult (if not impossible) to recognise pus when mixed with the blood, it is necessary to give to the demonstration all the exactness of a physical experiment; to find a liquid which can always be recognised, and to follow its smallest molecules: that liquid Cruveilhier found in mercury. In whatever part of the venous system, other than the abdominal, we introduce mercury, the globules will be found in the lungs: they will not be found inflamed, but "engorged." If the animal survive some days, a reddish induration will be seen to surround each globule; at a later period, pus or tubercular matter, or a mixture of both, will constitute their circumference. Cruveilhier has even placed a single globule in the medullary canal of the femur, and a month afterwards he has found that globule in the lung, divided into many smaller globules, each being the centre of a tubercular abscess. Similar phenomena have been observed in the liver, as a consequence of a similar injection into the abdominal venous system. From these experiments, it results that the lungs are for the general venous system, and the liver for the abdominal system, an outlet for foreign bodies, and a barrier which, in many cases, they cannot pass. Thus the veins do not fill only the part of conducting the blood which has circulated through the arteries back to the heart, but they seem also to be capable of absorbing foreign bodies.

Those experiments to which we have referred assist in the solution of another difficulty. How does the pus get from the general into the portal venous system? This pus cannot be arrested in the lung like mercury, but passes in larger or smaller quantity through the whole venous system: and we are justified in stating that pus, circulating with the blood, creates its peculiar irritation in every organ;

in some more than in others; more decidedly and frequently in the lung than the liver or spleen. The next question to consider is, why do not these numerous abscesses supervene in those great collections of pus in the chest, the peritoneum, and in very large abscesses?—and is traumatic phlebitis necessary for their production? That great difference does exist between the consecutive effects of old purulent collections and recent traumatic suppuration, was strongly maintained by Quesnay. Why should there be absorption of pus in one case, and not in the other? Whenever a liquid susceptible of being imbibed is in contact with a suppurating surface, whether this liquid be secreted by our tissues or a foreign body, this liquid is absorbed. Absorption of pus goes on incessantly; the often-observed occurrence of the sudden disappearance of large abscesses is evidence of this. We see purulent collections in the pleura and peritoneum removed by absorption, and yet the economy is not disturbed, and the peccant matter is carried off by the emunctories. I wish you to understand that there is an enormous difference between pus which is transported by absorption into the circulation, and that which is formed in the veins. Absorption, it is probable, does not introduce the mass of purulent fluid, but successively the different elements. It seems first to remove its more liquid portion, its more solid parts are removed at a later period: but when pus is mixed immediately with the blood, it alters its crasis, embarrasses it in its course, favours concretion, is arrested in the capillaries, and determines simultaneously a number of points of inflammation. I only know three ways by which pus can be introduced into the circulation; by direct injection into veins or arteries, by attraction exercised by an open vein, by phlebitis. Now the direct injection of pus into the veins has the most serious consequences, and if not eliminated, produces accidents analogous to those which succeed to wounds or surgical operations. A powerful attraction is, it is said, exercised by veins upon fluids in contact with their open extremities. This is the idea of Marechal, who, basing his opinions upon the experiments of Barry, maintained that pus is drawn into the open veins by the aspiration caused by expansion of the chest and dilatation of the right auricle. Certain it is, if the opening be maintained, a species of absorption does take place. The attraction can only occur during the first few hours after the first infliction of the wound; when once the clot is formed, the absorption can no longer happen through the divided vessel, but must be effected, if at all, by the natural channels of absorption. Now I do not believe, for the reasons I have already given, that pus, in its natural state, can find its way into the general circulation through these channels. In that case, phlebitis alone would seem to be the only source of those accidents which succeed to wounds of veins. It must therefore follow, that visceral abscesses succeeding to wounds or surgical operation are a consequence of phlebitis of some part of the system; that they always present the same character, whatever may be the starting point.

I by no means admit that pus, secreted in an inflamed vein, and carried through different organs, concurs directly in this species of purulent generation, as was supposed by Dance; but I believe that pus, once mixed with the blood, is no longer pus, but an irritating foreign body. The rapidity of the formation of visceral abscess, the ordinarily perfect integrity of adjoining tissues, are not, in my opinion, decided objections against inflammation, for 48 hours is sometimes sufficient for the secretion of pus in an inflamed vein; and, on the other hand, the limitation of the pus, and the multiplicity of points where it is found, are explained by the inflammation of the capillaries. But this mode of looking at the question is not without difficulties: it would seem to be necessary that numerous visceral abscesses must always be preceded by phlebitis at some point. Now it often happens that we do not find at the same time with visceral abscess anything more than a suppurating surface. In vain have we examined all the veins (not only those immediately around the wound, but those of other parts of the body), without finding any trace of phlebitis. In support of this view of the subject, we may take wounds of the head, which are so often accompanied with abscess of the liver; but no trace of phlebitis. Dance was the first who gave anything like a true explanation of these abscesses of the liver, as a consequence of wound of the head: his theory is, that the deep veins are inflamed. We may readily conceive that pus, formed in the diploic veins, should arrive at the liver as well as the lungs and the whole capillary system, for the liver is not exclusively affected in wounds of the head ; and if many observers have simply mentioned those of the liver, it is because, in many instances, they have been contented to examine only those viscera whose lesions have seemed to them to explain the symptoms which were present.

I have already stated that I know no operations which more infallibly tend to the formation of visceral abscess, than those which are performed upon bones, when we frequently return to the charge. The same may be said of interference, day by day, with a wound in the soft parts. I think it ought to be established as a surgical law, that a wound in a state of acute inflammation should not be meddled with, except the necessity be urgent. Phlebitis of the superior or inferior extremities may occur with or without œdema : there is no œdema when the venous circulation is not much constrained—that is, when it occupies only superficial veins, the deep veins being free. There is œdema when the venous circulation is materially interfered with. Phlebitis with œdema, is generally termed phlegmasia dolens ; it occurs commonly after parturition, and usually affects the lower extremities. Though often preceded by the symptoms of uterine phlebitis, it may sometimes be manifested primarily in the limb itself; commonly supervenes towards the eighth day after parturition, sometimes not until three weeks or a month afterwards. It is indicated by the presence of a hard painful cord in the course of the femoral vessels. The œdema is generally proportioned to the extent of the phlebitis, which may occupy the femoral vein alone or may implicate many others. Still there are contradictory points with regard to this subject. Cases of obliteration of the larger venous trunks—the inferior cava, for instance—have been known to occur without infiltration of the lower limbs. The fact is, I believe, that not only the large veins must be obliterated, but also the smaller ones, to produce these effects, so much facility being offered by the collateral circulation. This kind of œdema is not peculiar to lying-in women ; it is sometimes spontaneous, is not unfrequently a consequence of cancer of the uterus, causing inflammation of the iliac or femoral veins. Sometimes it is seen in the arms, as a consequence of cancer of the breast. No part of this subject, however, is more interesting than purulent effusion within the joints. Are the cartilages inflamed ? Is this intra-articular suppuration the result of a simple deposit of purulent molecules, or is it the result of local inflammation ? Should it be confounded with rheumatismal arthritis ? Is the membrane which invests the cartilages vascular in the adult ? Is it susceptible of inflammation ? In the absence of materials for the accurate determination of this question, I may state my opinion to be, that pus, as pus, is not deposited in those articulations.

Treatment.—With respect to treatment, it is very difficult to say how we can oppose purulent infection ; theory would seem to indicate the employment of diffusible stimuli and bark, warm applications externally, purgatives, and emetics —such as large doses of tartar emetic in the early stages of the disease, repeated blisters, energetic diuretics, calomel, to produce a fluxion upon the intestinal mucous surface ; but all these means have failed, and yet, when we experiment upon brute animals, by injecting putrid substances or pus into the veins, the animal has numerous and very fœtid stools, and gets well. It is certainly a fundamental fact in pathology, that the greater number of diseases occasioned by miasmatic infection direct their action upon the intestinal canal. It is, then, evident that the treatment of phlebitis should be directed to limit the disease to its first period—that of coagulation of blood ; for suppuration once declared, pus once carried into the circulation, and our attempts to cure the disease will almost always be powerless. Now we arrest every day external phlebitis in consequence of bleeding, by the application of a great number of leeches in the course of the vein ; and even can arrest internal phlebitis, uterine as well as other, by large evacuations of blood, local and general : but pass that period, let general symptoms begin to manifest themselves, general and local bleeding will rarely have any favourable influence. They, no doubt, remove with the blood a portion of the material cause of disease, but this material cause is incessantly reproduced; and by removing the blood, you remove a certain portion of the power of resistance or reaction. We are bound to use the remedies we have indicated, although their efficacy has not been demonstrated. Until we can invent some means of preventing the constant renewal of the poison, nature and art will, I fear, fail to lessen the ravages of this very fearful disease. When the disease takes the form of phlegmasia dolens, the disease is not more manageable than that which we have been considering. The treatment should be decidely antiphlogistic: abundant local bleeding, a position such as will most facilitate the return of blood to the heart, and emollient applications, are the means which have obtained the greater number of cures. Many cases of phlegmasia dolens which have resisted other means, have given way to the suspension of the arm by the wrist; and similar means, such as a steep inclined plane, have seemed to produced similar effects in the inferior extremities.

AIR IN VEINS.

Various experiments made on living animals would seem to demonstrate that the injection of air into blood-vessels, determines accidents which are speedily fatal.

Since the 17th century, such experiments are recorded by Morgagni, Epist. 5, Sect. 21, in support of the explanations given by him as to the cause of sudden death in many cases, where, after death, no appreciable organic lesion was discoverable, but where there was an accumulation of aeriform fluid in the heart and great vessels. Wefer appears first to have discovered that insufflation of air into the jugular of a living animal kills instantaneously. This experimeut was repeated by Redi, Van-der Heyden, and others; they also ascertained that death was as much more rapid as air was more forcibly impelled.

In all animals so destroyed, it was discovered that the ventricles or the auricles were so distended with air, that the experimenters conceived that this extreme distension had prevented the organ from contracting; in the same way that an over distended bladder loses its contractile power.

Langish (Physical Experiments on Brutes, 1746,) called attention to the subject in England; and Chabert recommended it, as a mode of destroying glandered horses, without shedding blood; a practice which has been a good deal followed by veterinary surgeons. Bichat, resting his opinion upon certain of the cases mentioned by Morgagni, expressed his belief, that instead of the heart, the brain is first affected. Nysten demonstrated the error under which Bichat laboured. Now as to the mechanism by which the introduction of air occurs, much discussion has occurred. If we expose a jugular vein, we observe in it a phenomenon of flux and reflux, isochronous with the movements of inspiration and expiration: after an incision has been made in it, a certain quantity of air may pass into the vessel, and arrive at the right cavities of the heart. At the moment of its introduction, a lapping, gurgling, or whistling noise, is heard. It is possible that the principal cause of the introduction is inspiration, because this noise is usually isochronous with inspiration, and seems in all respects to be modified by it. This may not, however, be the only cause, for sometimes those sounds are more precipitate than the motion of inspiration, and then they appear to be isochronous with the beating of the heart; in this case the diastole of the heart (the right cavities) and more especially of the right ventricle, concur with the dilatation of the chest to produce the effect.

When death has been brought about by these means, we find, usually, a large quantity of air in the right cavities of the heart and in the pulmonary artery. Occasionally the distension of the heart is so great, that the cavities are three times their ordinary volume: sometimes a certain quantity of air is found in the left cavities of the heart, sometimes in the vessels of the brain. The fact of death occurring with extreme rapidity is rarely witnessed: brute animals will often continue to respire regularly and quietly for many minutes after the opening is made into the vein, and even after a blowpipe is introduced. Usually at some period not commonly exceeding ten minutes, the respiration and circulation become embarrassed, become more frequent, the animal power diminishes, anxiety and agitation are manifested; but even at this time, if we conclude the experiment, the animal soon becomes relieved, and often completely recovers: if, however, the experiment be continued, the respiration becomes more and more laboured, the animal becomes more and more feeble, the sphincters are relaxed, convulsions come on, and death.

The rapidity with which death follows the introduction, seems to vary with the animal, the size, the species, his previous health, his position during experiment, the quality of the air, the quantity, and the promptitude with which it is introduced. Usually the contrast is very great between the extreme rapidity with which death follows, when insufflation is employed, and the comparative slowness by which it is brought about when air is spontaneously introduced. A dog may be killed by a single insufflation in half a minute to a minute: a horse may be killed in five or six minutes, by two or three. Whether this be owing to the force with which the air is propelled, the quantity which may be thus injected, or the quality of the air thus introduced, it is not easy to decide. As to the quantity necessary for the destruction of an animal, the only approximate evidence I know is that furnished by M. Barthélemy, who says, if we push, by a single jet, into the jugular of a horse, seven pints of air, we destroy him in a space of time varying from four to nine minutes. And those furnished by Nysten, from his experiments on dogs, show that if only a moderate quantity of air be injected, the animal promptly recovers, but if we inject from 70 to 90 cubic inches, death follows with more or less rapidity. Proceeding upon these data, M. Barthélemy concludes, that about thirty ounces of air quickly introduced would be sufficient to destroy a man.

The principal causes of death seem to me to be, the enormous distension of the right cavities of the heart, which prevents the contraction of that organ; the presence of air in the pulmonary artery and in the lungs, rendering the blood viscous, spumous, and unfit to circulate in the pulmonary capillaries; and when the air gets into the venous system of the brain, possibly the pressure upon that organ.

In the experiments made upon animals, certain means of relieving this condition have been tried: compression of the chest has not seemed to prevent the introduction of air. Nysten thought differently; certainly, by a sudden and forcible compression of the chest and the abdomen, a certain quantity of blood mixed with air may be forced through the wound; and the aspiration of a syringe, whose pipe is introduced into the vein, may bring out a similar fluid; but we attach no great efficacy to either or both these means.

In applying this evidence of the action of air introduced into the veins of brute animals, to man, we should be very circumspect; because, rigorously speaking, the physiological conditions are not the same. Still there are certain applications and inductions which may be legitimately employed. I believe we are justified, upon the faith of the evidence to which we have referred, in concluding from the most pressing induction, that air may be introduced into the large veins, cut during operations practised upon man, in the vicinity of the superior part of the thorax; and maintained open, either by reason of a morbid condition of the tissues, or by any other mechanical or physical cause. Not only is the thing possible, but unfortunately it has been realized in at least half-a-dozen cases. I might mention nearly forty in which this accident is said to be the cause of death; but to my mind they appear inconclusive. Probably, doubts might be entertained by some persons, with regard to even three of those six, for they are wanting in certain circumstances necessary for inducing conviction.

Of those three cases, one occurred to Beauchesne, one to Dupuytren, one to Castara. In July, 1818, Beauchesne was in the act of removing a tumour from the right shoulder; in cutting through the clavicle, a whistling noise was heard, and the patient died in half an hour from the commencement of the operation. Upon examination, the jugular was found to be cut, the cavities of the heart were empty, the veins of the brain, the aorta, the crural arteries, the inferior cava, contained bubbles of air. Dupuytren, in 1822, was removing a tumour from the superior and lateral part of the neck, when a whistling sound like that of air rushing into a vacuum was heard, and in a few minutes the patient died, having lost very little blood. The right auricle was distended with air. Through the arteries and veins of the trunk, the extremities, and the brain, air was disseminated. Castara, in 1826, while removing a tumour of the right shoulder, and cutting near the axilla, heard a gurgling noise: the young man became insensible, made two deep inspirations, and died. The right cavities of the heart were distended, the left contained some air; the superior cava and subclavian also contained much of the same fluid. As to the rapidity of death in certain cases, I am bound to admit, that it is not easily explained, for in brute animals air may be passing in for ten minutes or a quarter of an hour without seriously compromising life. To explain so great a difference, it is necessary to suppose either that air acts much more deleteriously upon man than upon brute animals—indeed this would seem to be almost demonstrated—or that the state of exhaustion, in which patients undergoing operation are often found, either from loss of blood or the pain and reaction upon the nervous system, powerfully seconds the action of the air. Again, the vertical position commonly preserved during operation, may aggravate accidents: nor must we forget that the moral impression produced upon persons under operation, during the time the air is passing in, is an element which should not be neglected in explaining the rapidity with which death occurs.

It is of course a primary and necessary condition, that for the spontaneous penetration of air into the venous system, that tension and dilatation of veins, of a medium calibre, should exist; without this,.atmospheric pressure would bring the parietes of the vessel in contact, and the introduction of air into its cavity would be prevented. Now the permanent dilatation of a vein may result from abnormal adhesions by which the vessel is maintained open, or from the hypertrophy of the vascular parietes, which destroys the natural flexibility of the venous tissues. Independently of these causes, accidental in their nature, there are others which are natural and constant. The principal branches of the superior cava, in the vicinity of the heart, have, for the most part, with the different aponeurotic laminæ of the cervical region, connections, so that the parietes of these vessels are constantly maintained in a certain degree of tension; and these veins thus form canals which have greater tendency to remain dilated than to collapse. It is, therefore, very necessary to study this anatomical disposition, in consequence of the particular influence which it should exercise upon surgicals operations practised at the upper part of the thorax.

If unfortunately the accident should arise, the first step to be taken is to cover the extremity of the vein with the finger, and bring the parts together so as to prevent a further ingress. The other means to be employed are such as should be used in ordinary syncope, but they should be employed energetically and perseveringly. We cannot rely upon compression of the chest, as suggested by Amussat; nor compression of the abdomen, as recommended by Nysten: we cannot squeeze out the air which has been admitted; neither can I see a case in which it is at all probable you will be able to do what was recommended by Magendie—introduce the tube of a syringe into the wounded vein, and by aspiration remove the air which may be contained in the heart. It is a subject of great difficulty, upon which much time and experiment is necessary; at present, we may say, "Multa enim pendenda sunt, antequam bene ponas."

INSTANCE OF SPONTANEOUS PERFORATION OF THE STOMACH.

BY GEORGE P. MAY, M.D., MALDON.

Miss ——, a young lady of delicate health and pallid complexion, had long been subject to gastrodynia and indigestion, for which she had been under treatment several times. The paroxysms were sometimes so violent that she could not take the simplest article of diet without the certainty of its entailing upon her some hours of suffering. For three months prior to her death, her condition had considerably improved, although she was by no means free from uneasiness after her meals. On the evening of Feb. 7, she appeared to her friends to be in unusually good spirits, and expressed her belief that she was altogether better.

Before retiring to rest she partook moderately of cold chicken. After having slept soundly, she was seized about two o'clock in the morning of the 8th with violent pain in the abdomen, accompanied with a little vomiting. The ordinary domestic remedies of brandy and water, ginger, &c., were administered without contributing in any way to her relief.

I visited her at about five, A.M. She was then suffering excruciating pain through the whole abdomen, without any remissions. She was compelled to lie doubled, with her head and knees nearly in contact. The face was cold and clammy, the features shrunk, and expressive of the most acute agony; the abdomen was tense and tympanitic, and exquisitely tender to the touch; extremities cold; pulse 120, and feeble. Calomel and opium were administered, and succeeded by a large dose of castor oil. Bleeding, and leeches to the abdomen, hot fomentations, and, subsequently, frictions of croton oil, were resorted to with no beneficial results; the pain continued with scarcely any mitigation. There had been no vomiting since the commencement of the attack; no alvine evacuation could be obtained. Fœtid and purgative enemata were administered, but they were either retained or returned without any admixture of fæcal matter. The surface of the body continued cold; the pulse became more feeble: such was her condition, with little variation, throughout the day.

Late in the evening she stated that she thought she felt a little easier, but her sufferings even then were very severe. At midnight I was summoned to her bedside, as she had experienced a renewal of the abdominal pain in its most intense degree. She begged earnestly for something to relieve her. The pulse was now reduced to a mere tremor, and the vital powers appeared ebbing fast. I directed a grain of opium to be given every half hour, until four should have been taken, and a wine-glass of brandy and water at the same intervals.

On visiting her at five, A.M., on the 10th, the pulse was imperceptible; she was in perfect possession of her mental faculties; her sufferings appeared to be slightly mitigated. She was desirous of continuing the use of the brandy and water, as she thought she derived some benefit from it. She remained much in the same condition until two, P.M., when she expired, exactly thirty-six hours after the invasion of the symptoms.

Autopsy, Twenty-four Hours after Death.

The abdomen was very tense and tumid; on making an incision through the parietes a considerable quantity of flatus escaped; the peritonæal surface of the small intestines was of a bright rose tint, and, in some situations, coated with a flaky purulent deposit; they were much distended with flatus, but contained little solid matter; a large quantity of yellowish fluid, bearing on its surface many oleaginous particles, was diffused amongst the viscera of the abdomen; these, on a subsequent examination, proved to be portions of the castor oil which she had taken the day previous to her death; the stomach was lying collapsed; two apertures were discovered immediately below the line of the lesser curvature, nearly midway between the cardiac and the pyloric orifices; the openings were circular; one, at the posterior surface, being about the size of a shilling, the other, at the anterior, of dimensions somewhat less; they were immediately opposite each other, being divided by a septum nearly an inch broad; their margins were perfectly smooth, and of a darkish hue; the texture of the stomach around the openings was much thickened, and along the border of the small curvature appeared almost cartilaginous in its character; the mucous coat generally was soft and pulpy, and with this exception presented nothing abnormal in its aspect; the other viscera were apparently in a healthy condition.

Remarks.—That the perforations took place previous to death appears evident from the following circumstances:—1st. The sudden and violent invasion of the pain, unaccompanied by any remission, and the immediate and continued prostraction of the vital powers. 2d. The speedy occurrence of the tympanitic distention. In ordinary cases of peritonæal inflammation this condition would not be present until some hours after the accession of the primary symptoms. 3d. The absence of vomiting. In simple ileus or enteritis it is well known that this symptom is one of the earliest and most constant. In many of the recorded cases of perforation of the stomach, where there has been but one opening, vomiting has been present; but, in the case just detailed, it is difficult to conceive how vomiting could take place, as the stomach had contracted no adhesions to any adjacent tissues whereby its continuity might be preserved, and, from the size and relative position of the apertures, any effort to contract could produce no other result than the farther extravasation of its contents into the peritonæal sac. Lastly,—and, undoubtedly, the most important fact tending to establish the distinction between this case and one of solution of the coats of the stomach, after death,—the morbid condition of that part of the organ which was in the immediate vicinity of the apertures, and the situation of the apertures themselves.

The diagnosis of such lesions is by no means clear. In the present case there was such a combination of symptoms, each of them in their most aggravated form, as to warrant a strong suspicion that perforation of the stomach had taken place: but in many instances well-marked characters are wanting, and no clue is afforded which will enable the practitioner to distinguish perforation of the alimentary tube from peritonitis depending upon the ordinary cases. Pain, the most marked and permanent symptom, sometimes exists in a subdued degree, and has been known to be altogether absent. A boy was recently under my care with extensive disease of the mesenteric glands and tuberculated lungs. He had for months suffered much abdominal uneasiness and tenderness on pressure. Hectic fever supervened, and he sank gradually, apparently under the common symptoms of phthisis. The day before his death there was some vomiting, which was the only additional feature to the train of symptoms under which he had long laboured. An examination of the body after death disclosed an aperture (the result of tubercular ulceration) the size of a quill, in the ascending colon, through which a large quantity of fæcal matter had been discharged into the cavity of the abdomen. The intestines were so strongly agglutinated to each other and to some of the contiguous viscera, that it was quite impossible to separate them. In this case there was no material increase of pain previous to death, nor aggravation of the maladies usually attending the disease under which he was suffering.

Little, unfortunately, can be said as to the means likely to be serviceable in cases of perforation of the alimentary tube. Dr. Stokes has advocated the employment of large doses of opium, with the view of subduing the peristaltic action of the intestines; but a serious obstacle to the adoption of this measure with any degree of satisfaction, exists in the difficulty before alluded to, of establishing the diagnosis of the lesion upon sufficient data. Rarely is there such a concurrence of distinctive characters as to enable us to pronounce with any confidence upon its existence; nothing but a post-mortem inspection can demonstrate it clearly. But, could the discovery be made during life, it is very questionable whether any mode of treatment would be attended with benefit, when a constant excitant of intense inflammation exists in the extravasation of foreign substances into the sac of the peritonæum, which must have taken place before any treatment could be employed. For my own part, if a case occurred to me in which the symptoms encouraged a suspicion that perforation and extravasation had ensued, and if, by means of opium or any other remedies, the patient recovered, I should conceive that such recovery was in itself conclusive evidence that my suspicions were ill-founded. It is always with reluctance that we admit that disease has completely baffled our efforts—that it has put the resources of our art thoroughly *hors de combat*. Human nature rebels at the charge of self-insufficiency; but, ofttimes must the truth of the axiom, "'Tis not in mortals to command success," force itself upon the mind of the practitioner in his endeavours to alleviate the sufferings of his fellow-mortals.—*Lancet.*

ON THE HYDRATED SESQUIOXIDE OF IRON AS AN ANTIDOTE TO ARSENIC.

BY DONALD MACKENZIE, M.D.,
Fellow of the Royal College of Surgeons, Edinburgh.

THE inefficacy of sulphuretted hydrogen, the alkaline sulphurets, charcoal, &c., as antidotes to arsenious acid, having been fully shown by M. Orfila, I resolved to make a few experiments with a view to determine whether the last-discovered counter-poison, viz., the hydrated sesquioxide of iron, so much extolled by the toxicologists of the continent, more particularly by those of Germany and France, is a true antidote.

Drs. Bunsen and Berthold, two physicians of Göttingen, presented to the public a treatise on the efficacy of this substance in cases of poisoning by arsenic, in which they mention that they found it to be an excellent antidote, as it formed with arsenious acid a compound, not only insoluble in water, but also in the juices of the stomach. These opinions were supported by the result of experiments on several of the lower animals, to which they found that they could exhibit arsenic, without any prejudicial effects, in a dose quite sufficient to destroy life, provided at the same time they administered a sufficiency of the antidote.

These opinions of Drs. Bunsen and Berthold have been corroborated by the experiments of MM. Miquel and Soubeiran, Orfila and Lesueur, Bouley (jeune), Renault and Lassaigne, and Drs. Borelli and Demaria of Turin; but they have been declared erroneous by Mr. Brett and Mr. Orton, who state that they found the peroxide of iron to be of no avail in counteracting the poisonous properties of arsenic.

There are two methods of preparing this substance, viz., by adding ammonia to the persulphate, or to the pernitrate, of iron. The hydrated sesquioxide immediately precipitated, is to be collected on a cloth filter, where it is to be carefully washed with boiling water, until most of the sulphate of ammonia is removed, which will be ascertained by the water used in washing not affecting reddened litmus paper. The permuriate of iron does not answer for the preparation of this substance, as, on the addition of the ammonia, there is thrown down along with the sesquioxide, a considerable quantity of chloride of iron. The hydrated sesquioxide ought to be kept in the state of a magma, as it is found to unite with arsenic more readily in that condition than after it has been dried. It should be carefully excluded from the air, as it is apt to absorb carbonic acid. M. Henry says, that from every thirty-six parts of sulphate of iron, there will be obtained twelve of the sesquioxide. The quantity of the antidote requisite to neutralise a given portion of the poison has been differently stated. Dr. Bunsen recommends from two to four drachms, with sixteen drops of ammonia, to be given for every six or eight grains of arsenic; while MM. Orfila and Lesueur give a much larger quantity. M. Bouley gives thirty-two parts, and Drs. Borelli and Demaria four and a half, for every portion of arsenic; but the quantity most generally chosen is that recommended by MM. Miquel, Soubeiran, and Nonat, who administer the antidote in the ratio of twelve to one of the arsenious acid.

Dr. Von Speez, of Vienna, from some experiments which he made with the rust of iron, and hæmatite (red iron ore), instead of the hydrated sesquioxide, was of opinion, that when there is none of the latter to be procured, the two former will be found of advantage. He thinks that the rust of iron comes very close to the hydrated sesquioxide in its property as an antidote, and then, "sed longo intervallo, hæmatite, which, in consequence of its slow operation, may be used without any beneficial result where the poison is exercising a very powerful action on the system."

Experiment I.—Three grains of arsenious acid were dissolved in about an ounce of water, and then a quantity of the magma of the hydrated sesquioxide equal to thirty-six grains, was mingled with it. The mixture was immediately filtered, and tested with ammoniaco-nitrate of silver, ammoniaco-sulphate of copper, and sulphuretted hydrogen, none of which gave the characteristic precipitates.

This experiment proves that all the arsenic had united with the sesquioxide of iron, and had formed an insoluble compound with it, which Dr. Bunsen says is an arsenite of iron. I repeated this experiment several times, and always with the same result, which shows that Mr. Brett was wrong in stating that "an excess of peroxide of iron will not neutralise arsenious acid, even when the last is in solution, and the time allowed very considerable."*

Having thus proved that when a solution of arsenic and the sesquioxide of iron come in contact, they combine, and form an insoluble compound, I proceeded to make a few experiments on animals, with a view to determine whether, when arsenic is introduced into the stomach in the solid form, the antidote combines with it, and prevents it acting.

Experiment II.—At a few minutes past 4, P.M., I injected, by means of an œsophagous tube, into the stomach of a large mongrel dog, eight grains of arsenious acid in fine powder, and immediately afterwards, a quantity of the magma of the hydrated sesquioxide, containing one hundred grains, suspended in about five ounces of water. The œsophagus was then tied to prevent vomiting. This animal presented none of the appearances which so large a dose of arsenic always produces. It was killed about three o'clock on the following day.

Dissection immediately after Death.—The peritonæum was perfectly healthy throughout the whole of its extent. The mucous membrane of the stomach presented slight redness at its inferior portion, towards the great curvature. There were several inflamed spots along the course of the duodenum, but they were very few and faint in the jejunum and ileum. The cœcum and large intestines were healthy, but the rectum, at its termination, was considerably reddened. The other organs in this cavity were natural. The heart and lungs presented no abnormal appearances.

Experiment III.—At 1, P.M., seven grains of arsenic were administered to a very small mongrel dog, and, five minutes afterwards, the antidote, in the ratio recommended by M. Bouley. A ligature was then tied round the œsophagus, to prevent vomiting.

The animal was rather weak after the operation, but it soon became stronger. It was visited at half-past 8 in the evening, and the ligature round the œsophagus was removed. No vomiting took place. On the following morning it was quite healthy, and there were none of the symptoms present which characterise poisoning by arsenic. The food which had been laid before it on the previous evening remained, as far as I could judge, untouched. However, during the course of the day, it both ate and drank, and, in short, continued perfectly well. It was killed on the sixth day after the experiment.

Dissection.—The peritonæum was healthy. In the stomach there was slight redness, considerably diffused, which extended to within about two inches of the pylorus, and the mucous membrane was coated in several places with false membranes. The small and large intestines exhibited the same appearances as in the last experiment. The lungs were healthy, and the only morbid appearance in the heart was a very slight ecchymosis at the left auriculo-ventricular opening.

Experiment IV.—At about half-past 4, P.M., twelve grains of arsenious acid were introduced into the stomach of a middle-aged mastiff, and ten minutes afterwards the antidotes (in the proportion of twelve to one), diffused in about eight ounces of water. The œsophagus was then tied.

The dog continued pretty well up to the time that it was killed, which was about twenty-four hours after the exhibition of the poison.

Dissection.—The appearances in the stomach and intestinal canal were the same as in the last two experiments, but a little more strongly marked. The other organs in the abdomen, as also those in the thorax, were quite healthy.

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* "Medical Gazette," vol. xv., p. 222.

Experiment V.—At 9 o'clock, A.M., seventeen grains of arsenic, suspended in about two ounces of thin syrup, were injected into the stomach of a terrier, and, after the lapse of fifteen minutes, the hydrated sesquioxide was administered in the same ratio as in Experiment III., and the œsophagus tied. The ligature round the œsophagus was removed at about 7, P.M., of the same day, and no vomiting took place. This dog continued to do well up to the time it was killed, which was on the sixth day after the poison had been administered.

Dissection.—Peritonæum healthy. The stomach presented very slight redness, as also did the duodenum, and there were, here and there, small pieces of false membrane effused. The remainder of the small intestines, the cœcum, and large intestines, presented scarcely any abnormal appearances, and, with the exception of a few very small red spots, and slight diffused redness near the arms, might be said to be perfectly healthy. The other organs were natural.

Experiments VI. and VII.—At 10, A.M., ten grains of arsenic, diffused in about an ounce of the thin part of rice-broth, were administered to a sheep-dog, about six months old, and, twenty minutes afterwards, the sesquioxide, in the ratio recommended by M. Soubeiran, was also injected, and the œsophagus tied.

At 11, A.M., ten grains of arsenic, suspended in an ounce of milk, were administered to a small terrier dog, and, after twenty-five minutes had elapsed, the antidote was given, as in the last experiment.

These two dogs continued well, and were killed on the third day of the experiment.

Dissection.—The appearances of inflammation in the stomach and intestinal canal were, if anything, somewhat greater than in Experiment V., and correspond pretty accurately with those in Experiment III. The other organs were healthy.

Remarks.—All the foregoing experiments tend to prove that Dr. Bunsen did not err in ascribing so much value to the use of the hydrated sesquioxide of iron, precipitated by ammonia, in cases of poisoning by arsenic, as Messrs. Brett and Orton asserted that he did; and they show that those gentlemen were wrong in stating that no confidence could be placed in its properties as a counter-poison. In all of the experiments slight inflammation was found in the stomach and intestinal canal, but that does not invalidate the efficacy of the antidotes, because, whenever arsenic comes in contact with the mucous membrane, it adheres to it, and soon becomes enveloped in a coat of mucus, which effectually prevents the antidote acting upon it, and consequently causes inflammation, more or less severe, according to the quantity thus covered up. This was very well shown in Experiments II., III., and IV., where the arsenic came more in contact with the coats of the stomach, from its being suspended only in water, the inflammation being greater in them than in Experiments V., VI., and VII., where it was diffused through a thickish fluid, even although more time elapsed between the administration of the poison and the antidote in the latter than in the former.

I have not thought it necessary to make any experiments, with a view to determine how long after the poison has been swallowed the antidotes may be of avail, as it commences its action much more quickly in one case than in another; in some, indeed, it commences to act almost immediately, but, on the average, not until after the lapse of half an hour.

There is a considerable number of cases, where this antidote was used with success, related in the following periodicals, viz.:—

Gazette Médicale, Août 22, 1835.

Literary Gazette, 1835, p. 556; two cases.

LANCET, 1834-5, Vol. I., p. 516.—LANCET, 1838-9, Vol. I., p. 54.—LANCET, ditto, ditto, p. 327.

Medical Gazette, Vol. XIX., p. 177.

British and Foreign Med. Rev., Vol. I., p. 572; six cases. Ditto, ditto, Vol. VII., p. 563.

Upon being called to a case the practitioner ought, if vomiting has not taken place, to administer an emetic, while he is procuring the antidote. This will prove useful, by evacuating the stomach of a considerable quantity of the poison;

of course it would be wrong to give an emetic in those cases in which vomiting has been produced by the action of the arsenic, and all that is necessary to be done is to give milk, which "should be drunk both before and after vomiting has begun, as it appears to be the best substance for enveloping the powder, and so procuring its discharge."* Whenever the antidote is procured, it ought to be given every two or three minutes in dessert or table-spoonful doses, mingled with a little water; some have recommended syrup or mucilage to be used instead of water, but it is of no importance which is employed. If the antidote be vomited up, which very frequently occurs, it should be given until the vomiting and other bad symptoms have entirely ceased; indeed, the quantity ought not to be regulated by the amount of the arsenic swallowed, but rather by its effect on the symptoms.

The prognosis will be more favourable, the less the time which elapses between the administration of the poison and antidote, and the thicker the fluid in which the arsenic was suspended, because less of it will adhere to the mucous membrane of the stomach, when diffused in such a vehicle as soup or milk, than when it is taken suspended only in a little water.

From the experiments which I have related, I conclude that the hydrated sesquioxide of iron should be resorted to in all cases where arsenic has been swallowed, as it is a chemical antidote of great avail in poisoning by that substance. —*Ibid.*

NEW OPERATION FOR CLUB-FOOT.*

The subject of club-foot and its treatment by division of muscular or tendinous structures was, we had imagined, exhausted; but we were mistaken. Here are forty fair pages, with ten neat etchings, on the treatment of talipes varus, by division of the plantar fascia. Mr. Coates' pamphlet contains four cases of talipes varus, to which are appended certain observations illustrative of his peculiar views on the physiology of this deformity, and on the part which the plantar fascia plays in its production.

Mr. Coates describes his mode of dividing the fascia in the following words:

"The toes being pressed obliquely upwards and outwards, and the fascia put upon the stretch, I passed a straight narrow knife between it and the skin as near to its origin as possible. I then with a curved probe-pointed bistoury divided the fascia completely. A few drops of blood escaped. The assistant felt the convexity of the tarsal arch diminish immediately, but without any jerk or audible snap, and the patient cried out, joyfully, that the foot was, as he expressed it, "let loose;" nor could he believe the operation completed, so slight was the pain. The tarsal arch became more supple immediately after the division of the fascia."

The reasons for adopting this practice, instead of the more ordinary one of dividing the tibiales and peronei muscles, are founded on anatomical and physiological reasoning. The part of the plantar fascia called by anatomists the middle portion, arising by a narrow band from the inner and inferior part of the os calcis, runs forward, expanding laterally, and diminishing in density to about the middle of the sole, a little anterior to which it divides into three portions; the middle and broadest is again divided into three slips, which separate, to be distributed to the three middle toes: a distinct band runs to the great toe, and another, the most external, takes a curved direction to the fifth, to which it is distributed. Each tendinous band divides opposite, or nearly so, to the articulation formed by the distal end of the metatarsal bone with the proximal end of the first phalanx, into two tendinous slips, which are inserted into the extremity of the metatarsal bone, lateral ligaments, and sheath of the flexon tendons of their respective toe. The different bands are connected by numerous cross fibres, passing from one to the other.

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[*] "Christison on Poisons," p. 335.

[†] Practical Observations on the Nature and Treatment of Talipes, or Club-Foot, particularly of Talipes Varus. By W. Martin Coates. Bailliere, London, 1840, 8vo., pp. 40.

The physiology of this portion of the plantar fascia, assists us in explaining the mechanism of talipes. Extending from the os calcis to the distal ends of the metatarsal bones, it acts towards the arch of the foot the same part that the string does to the archer's bow when strung, rendering it rigid, and, by assisting the wedge-shaped bones of the tarsus, materially strengthens its arch.

When the gastrocnemius, soleus, and plantaris muscles contract, they become, through the medium of this fascia, flexors of the toes, and from its oblique direction from within will tend to turn the sole of the foot inwards, and enable a person to stand on the ball of the little toe, to which position there is an instinctive inclination when we raise our heels to stand on our toes. The fibres of the plantaris tendon, distributed to the fascia, will act especially in this way. Its pathology in talipes varus corresponds with its physiology.

The tendons of the gastrocnemius, soleus and plantaris muscles being contracted in length, and the posterior protuberance of the os calcis raised above its normal position, the posterior attachment of the fascia to the os calcis will be raised also, the arch of the tarsus will be increased, and the distal extremities of the metatarsal bones, more particularly that of the fifth, will be drawn downwards, and obliquely inwards, towards the inner part of the inferior surface of the os calcis. If the elevation of the heel be moderate, and no effort be made to remedy the defect by instruments, the patient will walk with pain on the integument covering the distal extremity of the fifth metatarsal bone.

If the contraction of these muscles be extreme, the anterior part of the foot will be drawn first downwards and inwards, and then upwards and backwards, towards the heel, and the patient will then walk on the instep.

From these views, Mr. Coates was led to divide the plantar fascia in some cases of talipes varus; and the success of the practice seems to warrant the correctness of the opinions upon which he proceeded.—*Ibid.*

ON THE PROOFS OF THE PRESENCE OF FREE MURIATIC ACID IN THE STOMACH DURING DIGESTION.

BY ROBERT DUNDAS THOMPSON, M.D.,
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THE object of a paper on this subject, read at the Birmingham Meeting of the British Association for the Advancement of Science, was to discuss the nature of the experiments from which the deduction had been drawn by Prout, Tiedemann, and Gmelin, that free muriatic acid exists in the stomach. The author had made varied experiments in order to ascertain whether any acid could be distilled over from the filtered fluid contents both of the human stomach and of the inferior animals; and although he has generally procured traces of acetic acid, he could never detect the slightest indication of the muriatic. This result is in consonance with that of Schultz, who denies that there is any acid in the stomach, save the lactic, and this he admits he has met with in a free state, almost constantly, in the course of a very extended experience. The method adopted by Prout and others to determine whether free muriatic acid was contained in the stomach was to filter the contents of that viscus, to take a certain weight of the fluid, and to precipitate it with nitrate of silver. An equal quantity was taken, evaporated, and ignited; the residue was then dissolved in distilled water, and the solution precipitated with nitrate of silver. The difference between the weights of chlorine in the two silver precipitates was taken as the indication of the total amount of free chlorine or muriatic acid contained in the stomach.

Now, according to Dr. Thomson, this experiment is liable to, at least, one objection, which renders problematical the conclusion, that the indication is thus obtained of the true amount of muriatic acid, if it is not altogether fallacious; for he has ascertained that common salt is decomposed to a considerable extent by various vegetable substances, when they are ignited in contact with each other; and hence the saline matters of the stomach may lose muriatic acid without there being any of this acid in a free state in the stomach.

It has been known for some time that when steam is passed slowly over common salt in a state of ignition, muriatic acid fumes are discharged. Again, when anhydrous sulphuric acid, that is, oil of vitriol deprived of its water, is brought in contact with common salt at a strong heat, part of the acid loses an atom of oxygen, and becomes sulphurous acid; the oxygen passes to the sodium, and forms soda; the chlorine is evolved along with the sulphurous acid fumes, and the remaining sulphuric acid which has not been decomposed, unites with the oxydised sodium or soda to form Glauber salt or sulphate of soda. Such, then, are two well-known decompositions.

But Dr. Thomson has ascertained, that if oxalic acid be heated in contact with common salt, muriatic acid fumes are discharged in abundance, even at a temperature much below ignition, and the residual salt is found to effervesce strongly in the dilute acids, showing that a portion of chloride of sodium has been converted into carbonate of soda.

Tartaric acid, he has found, when exposed to the same action, to afford a similar result.

With citric acid the same products are generated, and a black residue remains, which contains a considerable portion of carbonate of soda. Saliva appeared to produce some decomposition, and numerous other substances which were subjected to experiment afforded analogous results.

It is quite obvious, therefore, that if any of those bodies which produce such decompositions are present in the experiment of Prout and Gmelin, a portion of the common salt will be decomposed, and the quantity decomposed will depend on the proportion of the decomposing elements present. Hence, this method cannot be a test of the actual amount of free muriatic acid in the stomach, and may afford the free muriatic acid which former experimenters, who have employed it, have concluded to be given off.

There appears to be another source of error in this mode of determining the point; because nitrate of silver will undoubtedly throw down a portion of animal matter from the animal fluid with which it is mixed, and this precipitate will fall down along with the chloride of silver, and increase its quantity above what it ought to be.

Dr. Thomas concludes from these observations, that the subject requires further investigation, as it is one in which the most important function of the human economy is concerned, and one whose condition must enter as an element into by far the majority of diseases which assail mankind.—*Ibid.*

INCONTINENCE OF URINE, DURING SLEEP, IN FEMALES.

BY E. W. DUFFIN.

The "habit of wetting the bed," usually contracted during infancy, occasionally continues beyond that period of life, and is sometimes very difficult to overcome. For the most part, as the young person approaches puberty, the shame that attaches to the practice alone effects a cure; but this is not always the case, and it then becomes an object of professional interference. In females, when the habit is so riveted as to resist the correcting influence of moral reproach and feminine delicacy of feeling, it is not only very difficult to remedy, but in sensitive minds may give rise to a state of mental depression of the most alarming description. An example of this kind presented itself to my notice a few months ago, the urgency of which suggested the mode of treatment to be presently explained.

The patient, a young woman in humble but respectable life, was 19 years of age, in perfect and robust health, regular, unusually good-looking, well-made, fully developed in every respect, and extremely sensitive, so that the misfortune could only be regarded as the result of habit, and not of local debility, or disease of the urinary organs. She had an advantageous offer of marriage pending, but was prevented accepting the proposal in consequence of being unable to retain the contents of the bladder while asleep. Her mother and sister slept with her in turn, but their surveillance was of no avail, as latterly it appeared the girl did not void her urine while asleep at stated intervals, but as it was secreted, or as soon as a few ounces only were accumulated in the bladder. The habit had resisted every means, moral and medical, hitherto devised for its correction; and the young woman had for a length of time, in consequence, fallen into a state of despondency of the most distressing nature, and which had latterly, from the painful position in which she was placed with respect to her lover, increased to such a degree that her parents were apprehensive she might destroy herself. Being aware that the girl had been under medical treatment on various occasions, and that all the usual remedies had been fairly tried, it occurred to me, as the case was pressing, to establish a perpetual monitor at the orifice of the urethra. For this purpose I applied lunar caustic freely, to about an inch in extent, along the mucous lining of the urethral canal, so as to excite acute inflammation of the part. This had the desired effect. When the urine passed over the irritated surface the pain it produced was sufficient to awaken the patient. and arouse the sphincter vesicæ to the performance of its office. At first she slept but little, the scalding being very troublesome, from the urine almost constantly flowing; but in the course of a week the bladder admitted of a natural accumulation of urine, and the intervals between micturition were proportionably increased. A few weeks sufficed to completely correct the habit, though it was necessary to repeat the application of the caustic three times at intervals of fourteen or sixteen days, as the inflammation subsided. She has had no relapse during the last four months, and is to be married very shortly.—*Ibid.*

USE OF THE HANDS TO ARREST FLOODING.

To the Editor of THE LANCET:—

SIR:—If the following be worthy of a place in the Lancet, you will oblige me by its insertion, for I consider it to be obligatory on every practitioner to make known to the profession any plan that has been adopted by him in practice, which, after sufficient trial, has proved to be effectual.

Flooding after labour is, perhaps, more alarming, even to the most practised and hardy veteran, than any other event that he meets with; but to the young accoucheur it is doubly alarming, an unsuccessful result not seldom marring for ever his professional prospects. In these cases I place my patient horizontally on her back, with her legs a little separated, having a large vessel nearly filled with cold water, placed at each side of me. I immerse my hands in it, and move them about, until they become sufficiently cold; then, with one, I grasp the uterus, and continue to hold it until the hand begins to get warm. I then use the other in the same way. The first hand having been again placed in the water, it is soon cooled, and, in its turn, is applied as soon as the other is warmed; thus alternately applying them, I keep up a constant application of cold and pressure, which last can, unquestionably, in these cases, be rendered more effectual by the hand than by any other means. This is, of course, continued until the uterus is perfectly and permanently contracted. In the course of several years' practice, during which I have had, certainly, not a small share of midwifery, I have necessarily had many cases of flooding, not one of which has terminated fatally, a result which I attribute to having early adopted the plan described, which may have been, and, most probably, has been, had recourse to by others, though I am not aware of any lecturer or writer who has given it publicity. I am, sir, your obedient, humble servant,

CHARLES LASHMAR, M.D.

Croydon, April 1, 1840.

CASES
ILLUSTRATIVE OF SOME OF THE MODES IN WHICH PUERPERAL INFLAMMATION PROVE FATAL AFTER A PROTRACTED COURSE.

BY JOHN THURMAN.*

In the following paper I have collected the particulars of five cases having a common general character, and presenting, I think, a certain degree of interest in connexion with the clinical history of puerperal inflammations.

Without at present stopping to allude to the peculiar characters of these cases, I may just observe that from their first attracting my attention I was induced to believe that they belonged to a class which had scarcely, if at all, been alluded to by writers on puerperal diseases. This impression has been still further strengthened by the results of an investigation (which, however, has only been partial) into the works of the principal authors on the subject.† I had indeed prepared the greater part of the materials for this paper before I met with a decided reference to cases of the kind I am alluding to, in the recent important work of Dr. Ferguson, on Puerperal Fever.‡ I cannot, I think, do better than here repeat the observations of that author, as they will form the appropriate introduction to this paper:—

"There is," observes Dr. Ferguson, "another effect of this fearful malady, which I have remarked, but never seen described. Persons who have recovered from an attack of puerperal fever, apparently of no great urgency, often do not regain health for several months, nay, even for one or two years. Their pulse continues rapid and irritable, and scarcely an evening passes without slight febrile excitement. In some, boils or abscesses break out from time to time; in others, the mucous membrane of the intestinal canal is affected by the presence of a painful spot, or by great irritability, and the consequent variation in the quantity or quality of its secretions. In all there is much emaciation. This state of constitution is often produced after exanthematous fevers, and I have known it occur in two instances after puncture from dissection. As yet I have seen no fatal termination to this very distressing, and, to the friends of the patient, and the patient herself, alarming state of things. The plan pursued by me in its treatment has been—1. A sustained course of sarsaparilla and mercurial alteratives. 2. The warm bath twice a week. 3. A change of climate, and the use of some of the foreign mineral waters, selected with reference to the peculiarities of the case."

Upon referring to Dr. Marshall Hall's work "On diseases of Females," I find, however, that he also had briefly alluded to some such insidious and protracted cases.

"In other cases," says he, "the abscess has not been evacuated during life; but the patient has gradually emaciated, and the health and strength have failed. There has been great frequency of the pulse, and hectic, and the disease has at length, though perhaps very slowly, proved fatal. It has, however, occasionally happened that the effused fluid has been re-absorbed, and the fatal event averted."§

Before at once passing to the narration of the cases, I may remark that it may at first appear singular that whilst Dr. Ferguson had never met with a case that proved fatal, I should be able to produce so many as five fatal examples; and this circumstance may probably induce some to question the identity of his and my cases. The principal difference between the cases which I am about to relate, and those which have been thus briefly but graphically described by Dr. Ferguson, would appear to depend upon the circumstance, as I gather it from the general tenor of his description, that Dr. Ferguson's observations have chiefly been made in the walks of private life, and among the more respectable classes of society; whilst mine are derived from the public practice of an hospital. Dr. Ferguson seems to have contemplated the disease in its more tractable and less severe forms, and under circumstances of ease and comfort, necessarily more favourable to recovery; whilst it has been my lot to witness it in its more advanced and incurable stages, aggravated very possibly by intemperance, anxiety, and want.

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* From the London Medical Gazette.

† Hey, Gordon, Denman, Armstrong, Mackintosh, Campbell, Gooch, and Lee, in their respective works; and papers in Edinburgh Medical and Surgical Journal, vols. 22 to 51, by Matoschek, Cusack, Luroth, Tonelle, Dance, Duplay, Ingleby, Renton, and Sidey; and those of Dr. Helm, in Med. Gaz. N. S. vol. 2.

‡ See Essays on the most important Diseases of Women, page 228, part 1.

§ Op. cit. 1827, p. 184.

It will be seen that the five cases all occurred at the Westminister Hospital within a period of less than three years, during which time I was the resident medical officer of that institution. Hence I can scarcely avoid suspecting that such cases would, upon inquiry, be found to be far from uncommon in the practice of general hospitals in all large towns, and particularly in those of the metropolis. That they have hitherto been but little, or, if we may judge from what has been published, not at all noticed, I think is perhaps attributable to the circumstance of the officers, both medical and surgical, of these important institutions, not generally taking much interest in the department of medicine to which these cases belong; so that either their connexion with the puerperal state is not fully if at all recognised, or if recognised is passed over and forgotten, instead of being added to the store of recorded facts and principles.

CASE I.—Labour followed in three weeks by inflammatory symptoms.—Chronic metro-peritonitis, with abscesses in the left groin, and extreme emaciation: Death at the end of three years.—Extensive adhesions of the pelvic viscera confined to the left side of that cavity.—Atrophy and valvular disease of the heart.—Granular kidneys.

Sarah Bryant, aged 32, was delivered of her fifth child in the year 1834, previously to which time she had enjoyed general good health. About three weeks after her confinement, as near as she can recollect, she had an attack of pain in the region of the womb, after which her health gradually became impaired. A tumour, which subsequently proved to be a chronic abscess, afterwards formed in the left inguinal region, almost precisely in the situation of hernia.

She had been admitted on two occasions into a public hospital, under the charge of a highly distinguished surgeon, who was stated to have regarded her case as connected with hernia; for the relief of which an operation was even performed. She remained, with intervals, more than two years in this institution.

She was admitted into the Westminster Hospital, as a patient of Mr. Guthrie, in September, 1837. At this time the emaciation had become extreme; there were numerous sinuses in connexion with the abscess, burrowing about the left hip; there was at this time no diarrhœa, in fact she required occasional laxatives; the evacuations were passed with pain. The treatment was merely palliative, and she died, completely worn out, October 11th, 1837, about three years after delivery.

Dissection.—The lungs were slightly congested and œdematous. The heart was very small, and only weighed 5¾ ounces (avoir.). The left ventricle was closely contracted, giving the appearance of "concentric hypertrophy," but this was doubtless dependent upon the small supply of blood which it had received during life, in consequence of the extremely debilitated state of the patient. There was considerable thickening of the free border and of the tendinous cords of the mitral valve, and in a less degree of the aortic and tricuspid valves. There was some hepatic-venous congestion of the liver. The upper abdominal viscera were otherwise healthy. The sigmoid flexure of the colon, the rectum, the uterus, and the bladder, were closely matted to each other on the left side of the pelvic cavity, through the medium of old adhesions. The lower part of the colon was also adherent to the parietes, in the right iliac fossa, and closely corresponded to one of the sinuses of the abscess.

This part of the intestinal canal was very much contracted, and could only have afforded a small channel for the fæces. The abscesses were found to be limited to the left side of the pelvis and lumbar region, and had burrowed extensively over the surface of the ilium and lower false ribs; the surfaces of both of which were extensively denuded of periosteum.

Both the kidneys were small, contracted, and the seat of extensive pale granular degeneration. The bladder contained some urine, which was of an offensive odour, and proved to be albuminous. No dropsical symptoms had been noticed during life.

Remarks.—I will only observe of this case, that its anomalous nature during life may be regarded as sufficiently evident, from its having been mistaken for hernia by so distinguished a surgeon as had at one time the care of the patient.

Case II. Healthy Labour, followed in ten days by phlegmasia dolens of the left, and, in a less degree, of the right lower extremity; chronic metro-phlebitis, sloughing abscesses around the pelvis, diarrhœa, and extreme emaciation.—Death at the end of the third month.—Diseased appearances in the uterus and left spermatic veins.—Peritoneum healthy.

Catherine Wadley, aged 20, was delivered of her first child in July, 1836, her labour being unattended by hæmorrhage, or any other accident. During the latter part of her pregnancy she had suffered from severe pain referred to the lower part of the spine, but which was unaccompanied by any other symptom, and was probably merely sympathetic. About ten days after delivery, she was seized with an affection which deprived her of the use of both lower extremities, and which she describes as "rheumatic," though obviously of the nature of phlegmasia dolens. It was attended by much pain and swelling, extending especially from the left inguinal region downwards. It does not appear that any active treatment was adopted, and in the course of the third or fourth week after parturition abscesses began to form over the sacrum and both trochanters; a troublesome diarrhœa set in, with emaciation and debility, which latter advanced very rapidly. She was admitted into the Westminster Hospital, under the care of Mr. Guthrie, September 13th.

The abscess over the sacrum, and that over the right trochanter, had opened spontaneously, presenting two large unhealthy looking cavities, with sores of sloughing cellular tissue, which discharged a large quantity of very offensive sanious pus. The abscess over the left trochanter had obtained a considerable size, and was extremely painful; indeed, her case was pitiable in the extreme, the position of the abscesses and sores being such as almost to preclude her obtaining any sleep. The tongue was slightly furred; the appetite but little impaired; the pulse and skin indicated a slight febrile disturbance of the system; there was no tumour detected, nor pain excited, by moderate pressure in the hypogastric region. A generous diet of animal food, with bark, wine, and Griffith's mixture, were prescribed, and she was placed on Arnott's hydrostatic bed. She experienced some comfort from the bed, but after being in the hospital about three weeks, the diarrhœa increased very much in severity, and resisted opiates, absorbents, and the various other means resorted to for its relief. The abscess over the left trochanter also broke, and was attended with extensive sloughing of the integuments.

She was gradually exhausted by the diarrhœa and suppuration, and died in the last stage of emaciation, October 20th, about three months after delivery. Eighteen hours after death I made the

Dissection.—No marks of peritonitis were observed upon the surface of any of the abdominal viscera.

The liver and right kidney were healthy, excepting that the latter was decidedly anæmic. The uterus was rather large, its tissue hard, and towards its internal surface singularly mottled with green and white. The mucous membrane lining it was softened, and had the same mottled appearance. The left spermatic veins were distended by numerous fibrinous coagula, which in many places adhered by slight pedicles, and in others in a more uniform manner, to the lining membrane of the veins.

The right spermatic veins presented no diseased appearances. The iliac veins and vena cava were omitted to be examined.

The mucous membrane lining the rectum was of a very red colour, and much softened, but neither it nor that of any other part of the intestinal tract examined presented any trace of ulceration. Upon removing the viscera, an unhealthy gangrenous abscess was found in the left side of the pelvic cavity, which was continuous through the ischiatic notch, with the abscess over the left trochanter. The bones of the pelvis were extensively denuded of their periosteum, and there was considerable morbid consolidation and sanious softening of the adjacent muscular and other structures.

The corresponding structures on the right side of the pelvis were healthy.

The brain and thoracic viscera were not examined.

Remarks.—This case is the only one of the series in which the uterine lesion was confined to the veins and substance of that organ, and did not implicate the peritoneum. It may likewise be remarked, that a connexion of cause and effect can scarcely be doubted to have existed between the facts of the left spermatic veins being those chiefly affected, the left extremity being the principal seat of the phlegmasia dolens, and the left hip that of the abscesses.

Although the history is not very definite on that particular, yet it is but too probable that the melancholy termination of the case is to be attributed to the want of active and judicious treatment in the first instance.

CASE III.—Abortion at the end of the third month of utero-gestation; preceded by acute pain around the uterus.—Chronic metro-peritonitis, with abscess two months after the abortion, over the right hip, diarrhœa and extreme emaciation.—Death at the end of 2¾ years.—Universal adhesion of the pelvic viscera, inclosing collections of altered lymph, &c.—Atrophy of the heart.

Penelope Harvey, aged 31, had been pregnant about three months, when she was attacked with severe pain in the region of the womb, which terminated in abortion, at the end of about a fortnight. The abortion was not attended by much hæmorrhage, and the uterine pain appears to have shortly subsided. About two months after the abortion a swelling appeared over the spine of the right ilium, and her health and strength were much affected.

She applied for relief at a dispensary, where the swelling was blistered. It increased in size, and proved to be an abscess, which burst, and discharged much sanious pus for more than two years and a half. She was also troubled with considerabled leucorrhœa: the catamenia never returned after the abortion. She was admitted into the Westminster Hospital, under the care of Dr. Roe, July 28th, 1836. Her general debility and emaciation were then extreme; the abscess, which had formed numerous sinuses, still discharged; there was considerable diarrhœa, with œdema of the feet, and profuse perspiration. The treatment consisted of a generous diet, with wine, quinine, and other restoratives, as well as of various remedies for the diarrhœa.

Exhaustion, however, generally advanced, and she died September 15th, 1836; about two years and three-quarters after her abortion.

Ten hours after her death I made the

Dissection.—The left lung had a few tubercles in different stages scattered through it, and its apex exhibited a small contracted and old excavation. The right lung was free from tubercles. The heart was very small, and only weighed 3¾ ounces (avoirdupois). The lobules of the liver were larger and more distinct than usual. The rest of the upper abdominal viscera were healthy. The greater omentum was adherent to the fundus of the bladder. All the pelvic viscera, including a large portion of the ileum, were strongly adherent to each other. Upon separating these old adhesions, a large collection of thick glairy matter, as much like mucus as pus, and varying in colour from yellow to dirty-brown, was found surrounding the uterus. The peritoneum forming the walls of this collection was rough, velvety, and thickened, and had more resemblance to a mucous than to a serous membrane. The uterus itself was smaller than usual. There was no ulceration or perforation of the intestinal canal. The abscess contained a foul sanies, and was found to occupy the whole of the right iliac fossa, and to burrow upwards towards the lumbar spine.

A large sinus was likewise found making its way among the muscles of the thigh, and entering the cavity of the pelvis through the right great ischiatic notch; it joined another sloughy abscess in front of the sacrum, which was denuded of periosteum, and carious. The kidneys were pale, and of a livid hue.

Remarks.—This case, as well as the following one, are interesting, as having had their origin subsequently to abortion.

Not that puerperal inflammations after abortion can be considered as particularly rare, as the cases of Hey, Campbell, and Mackintosh, sufficiently prove;[*] but that we should, I think, be disposed, *à priori* to question, whether the injury inflicted on the uterus and its appendages, by abortion during the early months of pregnancy, is sufficiently severe to give rise, under ordinary circumstances, to cases so protracted and lingering as those we are considering. Perhaps no circumstance more strikingly exhibits the degree of emaciation which takes place in these cases, than does the small size of the heart, which indeed may correctly be considered as atrophied.

The average weight of the heart in adult females, according to the researches of Dr. Clendinning, is 8⅛ ounces,[†] whilst, in the preceding, as well as in the first case, this organ only weighed 5¾ ounces. Of the hearts of nearly two hundred adult subjects that I have examined by weighing, the two under consideration were, with but two exceptions in cases of phthisis in very puny subjects, the lightest. These two cases, it may be remarked, were by far the most protracted of the series.

Case IV.—Abortion at the end of the third month of Utero-Gestation; followed by Uterine Hemorrhage, and at a later period by Gestation.—Chronic Metro-Peritonitis, Diarrhœa, extreme Emaciation, &c.—Death at the end of seven months.—Universal Adhesion of the Pelvic Viscera, Ilium, &c., with Tubercular Deposit in the adhesions—Atrophy of the Heart, &c.

Lucy Vaughan, aged 33, had enjoyed in general good health, until May, 1835, when she aborted, at the end of the third month of utero-gestation. Three weeks subsequently, she was attacked by severe hemorrhage from the uterus, apparently in consequence of mental emotion excited by her husband breaking his leg. After this, she was the subject of much fatigue and exposure to wet and cold, from visiting her husband almost daily, in an hospital, nearly three miles distant from her home; and the hemorrhage, in a less degree, continued. She suffered from sickness, great debility, and general indisposition. She lost flesh rapidly, had considerable pain and tenderness in the region of the lower belly, and noticed that there were "lumps" forming in this situation.

After continuing more than four months the hemorrhage subsided.

Nearly six months after the abortion, she was admitted into the Westminster Hospital, November 23, 1835, under the care of Dr. Roe. The debility and emaciation were at this time very far advanced: the features were sharp, the countenance very pale, and almost bloodless. The lightest forms of food produced sickness; there was flatulency, and sometimes constipation, but oftener diarrhœa, attended by tenesmus; the evacuations were grumous.

There were much fulness and tension of the abdomen, with exquisite tenderness to the touch, especially in the hypogastric region, on the left side of which, three hard lumps, of the size of walnuts, were felt under the abdominal parietes. The os uteri, examined by the touch, was situated rather low in the vagina; it was open; the inner lips rugose; the cervix and body felt as if engorged and thickened; and upon elevating the uterus the motion was communicated to the hypogastric tumours. Various remedies were resorted to, but without much advantage. She experienced, perhaps, most relief from counter-irritation applied to the abdomen, in the form of epithems of turpentine.

The emaciation advanced; she ceased to take anything except a little brandy and water, and gradually died exhausted, December 27th, about seven months after the abortion.

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[*] See likewise an interesting and complicated, but fatal case, of acute metro-peritonitis, after abortion, which occurred in the Westminister Hospital, London Med. & Surg. Journ. (Ryan's) vol. viii., p. 131. The inflammation in this case followed the retrocession of an acute eczematous eruption.

[†] Medical Gazette, 1837–8, N. S., vol. ii., p. 417.

Forty-eight hours after death, I made the

Dissection.—There was a moderate number of tubercles in the lungs. The heart was very small. The liver was healthy; the gall-bladder was large, and contained one large and two or three small biliary calculi.

The large omentum was stretched over the intestines, and adhered firmly to the pelvic viscera. The convolutions of the ileum, situated in the pelvis and in the lowermost part of the abdominal cavity, were matted to each other and to the pelvic viscera, by masses of imperfectly organized lymph, mixed with tubercular deposit. The largest of these were seated towards the left side of the hypogastrium, and had given rise to the tumours detected during life; they had evidently obstructed the canal of the intestines. Above the seat of this disease, the intestinal canal was dilated with a fluid, yellow, feculent matter, whilst the large intestine was considerably contracted. The mucous membrane of the intestinal canal was very vascular, softened, and in one place ulcerated.

The mesenteric glands were large and softened. The ovaries and Fallopian tubes were matted around the uterus by lymph and tubercle. The tissue of the uterus was pale and dense, but presented some ecchymoses, and the cervix and os uteri were very much altered by softening and ulceration.

The kidneys were pale: that on the right side was very small; its pelvis and ureter were considerably dilated, perhaps in consequence of the compression of the latter by the masses of lymph in the left side of the pelvis.

REMARKS.—This case was evidently modified by the tubercular diathesis, and it may be perhaps questioned how far it can be regarded as a puerperal case; there having probably been sufficient cause for its production in the "exposure to wet and cold," &c. As, however, the uterine hemorrhage which supervened on a recent abortion had not ceased when the local signs of metritis appeared, I think we are borne out in connecting it with the abortion; and it certainly has sufficient analogy to the other cases to justify its introduction here.

Andral, in the "Clinique Médicale," under the heads of "Chronic Peritonitis" and "Partial Peritonitis of the Pelvic Cavity," has two cases to which I may allude, as having some analogy to the preceding.* Dr. Black likewise describes a case, of which the following is a mere sketch:—

A lady, aged 30, after a severe labour with her third child, had an attack of puerperal fever, which left behind it a troublesome pain in the right iliac region, and other symptoms. At the end of about a year and a quarter she again became pregnant, but aborted at the fourth month. Her symptoms, after this, were all increased; there was great exhaustion from colliquative sweats, and there were two tumours in the right hypogastric region, which afforded a crepitus to the touch, and which were taken for abscesses.

She died two years and four months after the third delivery. Upon examination, adhesions of the omentum, of a portion of the intestines, and of the whole of the pelvic viscera, were found. There was great disease, with sphacelus of the uterus, bladder, and rectum; there were no abscesses, but two pints of serum in the peritoneal cavity.†

CASE V.—Instrumental Labour, with the extraction of a Dead Fœtus, followed quickly by Inflammatory Symptoms.—Chronic Metro-peritonitis, with Diarrhœa per vaginal, and extreme Emaciation.—Death at the end of the fifth Month.—Extreme Adhesions of the pelvic Viscera and Small Intestines; with Ulceration of the Os Uteri, and free Fistulous Communications of the Ileum and Rectum with the Vagina.

Mary Horniblow, aged 36, was delivered, with the aid of instruments, of a child which was stated by her accoucheur to have been "dead in the womb three weeks."

Soon after her confinement, she was seized with pains in the lower part of the abdomen, and she was seen by a physician. The treatment consisted principally of the application of leeches in the hypogastric region. The pain was partially relieved, but diarrhœa came on, attended by rapidly advancing emaciation, and prostration of the vital powers.

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* Clinique Medicale, by Spillan, 1836, pp. 1003 and 1009.

† Clinical and Pathological Reports, Newry, 1819, p. 157.

She was admitted into the Westminister Hospital, under the care of Dr. Roe, January 26, 1836, about four months after her delivery. The emaciation and debility were then extreme; the appetite was very much impaired; only little pain was excited upon making pressure over the abdomen.

Diarrhœa was almost constant; the evacuations were of an unhealthy, watery character, and the nurse reported that they were passed, at least, partially, by the vagina. It was further found that no enemata could be administered.

Upon exploring the vagina with the finger, I found considerable roughness and irregularity of its upper and posterior surface, giving the idea of ulceration; and the os uteri was flat, jagged, and irregular. I failed in detecting any fistulous communication between the vagina and rectum, although, with this view, the two canals were explored together, with the right and left fore-fingers.

The treatment adopted was of a restorative and tonic kind, embracing quinine, wine, &c.; and was combined with a variety of remedies directed against the diarrhœa, including opium, logwood, catechu, kino, starch, lime-water, chalk, strychnine, sulphate of copper, nitrate of silver, &c. The diarrhœa, however, was irrestrainable by these various remedies, exhaustion proceeded, and she died February 27th, about five months after parturition. Thirty hours after death I made the

Dissection.—The brain and thoracic viscera appeared healthy, some slight adhesions of the left pleura excepted. The heart was rather small, and weighed 7¾ ounces (Av.). The liver, spleen, stomach, and upper half of the intestinal canal, were quite healthy. The whole of the pelvic viscera, with several convolutions of the ileum and the cæcum, were matted together by organized false membranes, which were particularly strong and numerous around the right ovary, Fallopian tube, and that portion of the ileum situated most deeply in the pelvis.

The body of the uterus was firmly fixed against the sacrum, and compressed the rectum in this situation. The mouth and neck of this organ were extensively destroyed by ulceration. The mucous membrane of the vagina was also in a state of sloughy ulceration. In the upper and posterior part of this canal were three rather large fistulous openings, which communicated with the most depending portion of the knuckle of ileum already referred to; there was likewise a smaller fistulous opening into the rectum. The small intestine above the fistulæ retained its normal appearance and capacity, or, if anything, was somewhat dilated; whilst that part of the ileum situated below these openings, and which was involved in the adhesion, was contracted to a very small calibre, and was decidedly atrophied. The whole of the large intestine participated in this state; was lined with a thick viscid mucus, and had evidently not afforded a passage to the fæces for a considerable period. The lowest part of the rectum contained a mass of old feculent matter, the size of a small egg, and of a remarkably dry, hard, and white character. The kidneys were very pallid, especially in their cortical portions.*

REMARKS.—This case appears to me to be one of great interest. The fistulous communications, however, were inferred rather than proved to exist during life; and there can be no doubt, I think, but that their orifices, though undiscovered by the touch, would have been detected had the speculum been employed. Such a proceeding, however, appeared to be altogether forbidden by the exhausted state of the patient.

Had the orifices been detected, I presume that every practitioner would have concluded that they all communicated with the rectum, and not with the ileum, particularly as it might have been ascertained that one of them did so. It becomes an interesting question as to what would have been the result of the closure of the fistulæ under such an idea; had the general health of the patient permitted the surgeon to entertain such a proposal. Such was the degree of contraction of that portion of the ileum seated between the cœcum and the fistulous orifices, that I can scarcely doubt but that a fatal obstruction of the bowels would have been the result, had any of the operations which have been proposed with this view succeeded in closing the fistulæ. I am not aware that a case of ileo-vaginal fistula has previously been recorded, and its possibility should be borne in mind, especially by those who are devoted to plastic surgery. In this case I think there is strong reason for believing that both the fistulous orifices and the metro-peritonitis were the result of the instrumental delivery, which, however, was most probably a last resource.

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* See an abstract of this case as reported to the Westminster Medical Society, in the Lancet, vol. 2, 1835-36, p. 90.

I very much regret that in several of the preceding cases the uterine and iliac veins were either not examined, or if examined, that their condition was not recorded.

There is a case related by Mr. Glen, in the *Medical Gazette** of chronic metro-peritonitis following a first labour attended with impaction for many hours, which was complicated with a fistulous communication between the rectum and the bladder, and in which the fæces were passed mixed with the urine. This case proved fatal in about two years and a quarter, and has many points of analogy with the one just related.

Mr. Davey, of Portsea, has likewise related a remarkable case of peritonitis, involving chiefly the hypogastric viscera, though not stated to have been puerperal, in which, during life, the fæces were passed by the vagina, in consequence of a fistulous communication between the cœcum and the uterus itself.†

CONCLUDING REMARKS.

The number of instances before us does not admit of many observations respecting the causes, symptoms, prognosis, and treatment of these insidious cases, with the exception of such as will be immediately suggested by their perusal. There is one question, however, connected with the pathological nature of the abscesses which existed in three out of the five cases, upon which I feel disposed to make a few remarks.

Are we to regard these as of the nature of those secondary abscesses which are of such frequent occurrence in the progress of puerperal fever, especially where that is associated with an uterine phlebitis?

I will not take upon myself to express a decided opinion that they essentially differed from such in their origin, but, as in all these examples, the abscesses communicated with the pelvic cavity, I cannot but suspect that the deep-seated pelvic tissues had received some direct injury in the first instance. This was probably of the character of an insidious inflammation, communicated from the uterine veins or pelvic peritoneum; in addition to that morbific influence which they probably received from the circulating fluids, in common with the rest of the system, and which has been so ably shown by Dr. Ferguson to be at least the probable cause of the various phenomena of puerperal fever.

As another characteristic I may point out that the abscesses in the three cases were developed at a much later period than that in which I apprehend secondary abscesses ordinarily form in puerperal fever; further, in all these cases the symptoms of previous uterine or peritoneal inflammation were but slightly, and in one case (3) not at all present.

In the two first cases the abscesses began to form about the end of the fourth or fifth week, and in the third, two months after delivery.‡ Diarrhœa was a more constant feature of these cases than abscesses, and was present in all of them but the first. The excessive emaciation I have already referred to; it was present in every case. The period after delivery or abortion at which death took place was in the 2d, 4th, and 5th cases, at the end of the third, fifth, and seventh month respectively, whilst in the first case it did not occur until the end of three, and in the third until nearly the end of three years.

In concluding these observations it will be almost superfluous to point out what appears to be the bearing which the cases I have detailed have upon practice. They demonstrate, I think, in a very forcible manner, the necessity there is, in all puerperal cases, for the practitioner to be most anxiously alive to the importance of the least grade of inflammation in the uterus or its appendages, and most sedulous in the employment of the means necessary for its removal. With the object of enforcing this practical maxim, even more forcibly than it is already acknowledged, and as illustrative of the observations of Dr. Ferguson, with which I set out, I trust that these cases and observations, though hastily put together, may not be deemed altogether unworthy of attention.

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* Vol. 18, p. 801. † Lancet for 1835-6, vol. 2, p. 236.

‡ The most definite information that I have met with respecting the frequency of secondary abscesses in puerperal fever is that given by M. Tonnelle (Archiv. Gen. and Ed. Med. and Surg. Journ., vol. 34). Out of 222 cases examined by M. T., 14 presented deposits in numerous muscles; 10 in the cavities of joints; and 6 in the cellular tissue of the pelvis. I am not aware, however, that any of these six cases were of the chronic character of those described in this paper.

Retreat, *York*, *Dec.* 24, 1839.

(From the Lancet.)

ON THE PLAGUE OF EGYPT.

BY M. CLOT-BEY.*

When I left France for Egypt in the year 1825, my ideas on the nature of the plague were entirely derived from writers on that disease. Like them I, also, was a contagionist; and my opinion was still further confirmed by a perusal of the works of the medical officers attached to the expedition into Egypt. I even went so far as to provide myself with a long stethoscope, for the purpose of examining the pulse of persons labouring under the plague.

On the day after my arrival (Feb. 11, 1825,) a ship-captain requested me to visit a patient whom he supposed to be attacked by some malignant fever. I found the man in a state resembling that produced by a drunken debauch; his countenance was sunken, the eyes injected, and the gait unsteady. He complained of pain in the shoulder, where there was an enormous slough, and the axillary glands were enlarged. The analogy between these symptoms and those of the plague struck me; but the vessel came from Cyprus, where no case of plague existed at the period of its departure. The French consul-general laughed at my suspicion; but on the patient being examined by some Egyptian physicians, it was discovered that he really laboured under the plague.

This case made a deep impression on my mind. Myself, the captain, and several other persons, had touched the sick man, and afterwards held free communication with the people on shore; yet, although the patient died of the disease, not a single individual caught it from him. I soon took my departure for Cairo, and there observed two cases of plague during the year 1825. I instituted the most careful inquiries, but could not discover anything calculated to confirm my preconceived ideas respecting the contagious nature of the plague. In the year 1832, I returned to France. Dupuytren required of me some information, and requested to know my opinion on the contagious or non-contagious nature of the disease. I was unable to give a satisfactory answer, because the facts which I had observed were too few in number to justify my drawing any decided conclusion from them. These few remarks show that my mind was completely free from prejudice at the period when the dreadful epidemic of 1835 set in. As chief of the medical staff, it became my duty to advise the government, and ordain all the necessary measures during the prevalence of the epidemic, which lasted five months. The result of the experience then obtained I shall now communicate, and in particular direct your attention to some points connected with the origin, etiology, treatment, and contagious or non-contagious nature of the plague.

Origin of the Plague.—The majority of writers assert, that the plague has existed in Egypt from time immemorial; but recently, a few medical men have put forth a contrary opinion. A commission of French physicians was sent into Egypt to decide the question, and came to the conclusion, that the plague was a disease of recent origin. Yet this opinion admits of reasonable doubt. We may even hesitate to admit that any epidemic disease is of recent origin. The cholera has always existed in India; and measles, small-pox, scarlatina, &c., have certainly prevailed from time immemorial. But what reason have we for supposing the development of a new epidemic? Has the climate changed? Has the nature of the soil undergone any change sufficient to explain the nature of a new disease? The advocates of contagion are accustomed to bring forward the fact of enbalming as a proof that the Egyptians were, in former times, aware of the possibility of plague being communicated by exhalations from the body. But were this the case, why did they neglect to embalm their slave population? All the circumstances which attended embalming prove that it was a religious ceremony, and not a measure connected with public health. Hence, I conclude, that plague has existed in Egypt from time immemorial.

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* The substance of a lecture, delivered by M. Clot-Bey, to a numerous assemblage of medical men, on the 26th of April last, in the lecture-room of La Pitie.

Etiology of the Plague.—The immediate cause of plague is as little known to us, as is that of cholera, yellow-fever, scarlatina, or the influenza, &c. We merely perceive some connection between its spread and the medical constitution of certain periods of time. Writers, however, persist in attributing the disease to particular causes. Thus, some will attribute it to the overflow of the Nile; but they are evidently ignorant of the nature of this overflow. The residue which is left by the Nile is nothing but pure earthy soil, without any mixture of vegetable or animal matter; the layer deposited is not much thicker than a sheet of paper, and it is even doubtful whether the irrigation be favourable to vegetation, so small is the quantity of alluvial matter deposited by the waters. Other writers speak of evaporation or exhalations from the Nile, which brings with it decayed vegetable matter from the marshes traversed during its course. Were this the case, plague should be most prevalent in Upper Egypt, where such marshes exist, and in Nubia; but it is almost unknown in those countries. The truth is, that very false ideas prevail concerning the overflow of the Nile. The inundation of Egypt is completely artificial, and takes place only when it is thought advisable to effect it by opening the dykes. Upper Egypt is first irrigated; then Nubia; then Lower Egypt. Any extensive inundation is the result of accident; but even then it has not been observed that plague prevails more extensively, or with greater intensity, than at other times. Various other causes have been assigned, such as poverty, filthiness of the inhabitants, &c. To these a simple answer suffices: they exist in much greater force in Upper Egypt, where, as I have remarked, plague is unknown. Hence, I conclude, that local cause have no influence in the production of plague.

Symptoms.—The want of time does not permit me to enter upon this point. You will find the symptoms of plague perfectly described in books.

Treatment.—The remark which every scientific physician has applied to cholera is equally applicable to plague. The whole range of the materia medica, every known therapeutic agent, has been tried over and over again, without success. When any morbific agent attacks the system with such violence, as, within the space of three days, to quadruple the size of the spleen, to render the mesenteric glands as large as oranges, while at the same time it reduces them to a mere jelly, to force the blood from its vessels, &c., what hope can we place in medicine? How difficult must it be to arrest such fearful destruction?

Morbid Anatomy of the Plague.—On this I should wish to dwell at some length, but time does not permit me to do so. I shall merely observe, that a few bodies were examined by the French commission; but the abdominal cavity alone was examined, and that in a superficial manner; hence the morbid anatomy of plague was imperfectly understood until the last few years. It would detain me too long to place before you a faithful detail of the pathological appearances; I shall, therefore, defer the consideration of this point to some future opportunity, and pass to an examination

Of the Contagious or Non-contagious Nature of the Plague.

This, perhaps, is the most interesting point in the history of the plague: it was never examined by the ancients. The moderns admit two forms of contagion: one by miasma; the other, by inoculation. Let us see whether the plague belongs to either of these two forms. We cannot establish the existence of a virus capable of being propagated by inoculation. Where are the external characters which constantly exist in all diseases depending on a virus? Not the malignant pustule, which exists only in one-third of the cases. Not the bubo, which is far from being a constant symptom. Finally, the matter of plague bubo, and of the malignant pustule, does not produce plague, when introduced into the system by inoculation. Hence, we reject the idea of contagion by virus.

Contagion by Miasma.—This has given rise to the theory of infection. The advocates of this theory say, that the first person who was attacked by plague, must necessarily have acquired the disease under the influence of general causes, as he could not have caught it from any other individual. These general causes are the decomposition of animal and vegetable matter. Let us admit this theory for an instant: the vehicle of the miasma must be the atmosphere; hence, any attempt to avoid the exciting cause, or miasma, must be vain, and the sanatory measures now adopted useless. But we have other objections of a more serious nature. No one knows how the epidemic commences; here the contagionists are sorely embarrassed; the disease passes through its different phases and disappears. The dead bodies of its victims remain, their clothes are worn by the survivors, but no fresh case appears after the months of May and June. During the epidemic at Alexandria, from five to six hundred houses, in the quarter where the plague broke out, were shut up by order of the government; the doors and windows were built up, and the keys deposited in the hands of the authorities. On the cessation of the epidemic, these houses were thrown open; yet, although the air had remained unchanged, and consequently charged with miasmatic poison (had any such existed), the persons who occupied the houses were not attacked by plague; the furniture, clothes, &c., contained in the condemned houses were sold by public auction, yet not a single individual amongst buyers or sellers was affected by the supposed contagion. Here is another of a similar nature:—In the hospitals the same clothing was distributed, during the epidemic, to various classes of patients; and, after its cessation, the pestiferous garments, impregnated with the matter of buboes, pustules, &c., was given to the ordinary patients, yet not one case of plague was occasioned by this practice.

From the above considerations, I conclude that plague is an epidemic disease analogous to cholera, yellow fever, &c., and dependent on some cause which is different from contagion. It is unnecessary, then, to say, that I regard quarantine as being altogether useless. Besides, it is a measure completely delusive, being violated in every possible kind of way. I have seen occurrences take place at Marseilles of the most extraordinary kind, when we consider that the lazaretto is directed by the most strenuous advocates of contagion. While I was detained there myself in quarantine, I passed a carpet and a Cachmire shawl; and similar infractions are daily committed in every quarantine station throughout Europe. History, also, shows how ill-founded are the fears which prevail concerning the propagation of plague by contagion. The Crusades never occasioned any extension of the disease from east to west; and the actual deaths produced by plague were less before the institution of lazarettos than they have been since. It is said that Europeans escape the plague, in consequence of the precautions which they take to avoid contagion. I can assure you that this is false. The most perfect seclusion is no guarantee. As a proof of this, I shall relate to you the most striking fact with which I am acquainted. On the outbreak of the epidemic, the Pacha retired to a garden, at some distance from Alexandria, situate in a most delightful and healthy locality; the garden was surrounded by a wooden palisade, and outside this was drawn a military cordon, the sentinels being placed at distances of fifty paces from each other; yet a negro servant was suddenly attacked by plague, and the disease extended to seven other persons. Four of the military were attacked at a subsequent period.—*French Lancet*, April 28, 1840.

ACCOUNT OF A CASE OF ANEURISM, SUPPOSED TO HAVE OPENED INTO THE PERICARDIUM A CONSIDERABLE TIME BEFORE DEATH.

BY T. THOMSON M.D.,
Physician in the Northern Dispensary, London, &c.

ABOUT the middle of the year 1838, Richard Tofield, a blacksmith, of strong muscular frame, was seized with pain in the back and side; after which he continued to suffer from palpitation, and fainted occasionally at his work. From the beginning of June, 1839, he was several times visited by Mr. Bird, the house-surgeon of the Northern Dispensary, who found irregularity of the pulse most observable on the right wrist, with prominence and pulsation of the right side of the chest. On July 21, 1839, Dr. Theophilus Thomson visited him, and found him lying in bed with his lips and ears livid, skin perspiring, and anxious countenance.

In September he became worse, and on the 19th was found again confined to his bed, with great lividity of countenance and rapid pulse. By change of treatment his pulse became regular, and the expression of his countenance cheerful. He continued better till the 29th of September, when, on getting up to relieve his bowels, he became suddenly worse, stared wildly for a moment, uttered an exclamation, and fell back, dead.

On opening the body, the pericardium was found distended with a prodigious quantity of blood, so that the heart was not without difficulty discovered. It was enlarged, flaccid, and greatly displaced, so as to explain the peculiarity of the sounds remarked before death in different parts of the chest. The pericardium also presented marks of considerable disease, both old-standing and recent. The aorta, near its origin, was dilated to more than twice its ordinary size; and two or three inches above the aortic valves, was discovered an orifice by which the blood must have escaped into a cavity the size of an orange, from whence it passed into the pericardial sac. The author then states his reasons for thinking that the rupture into the pericardium had taken place some considerable time previously to death; and refers to Laennec, as giving countenance to the opinion that life is not necessarily terminated immediately by such an effusion.—*Lancet.*

ACCOUNT OF A CASE OF SPONTANEOUS RUPTURE OF THE HEART INTO THE PERICARDIAL SAC, UNDER WHICH LIFE CONTINUED FOR ABOUT TEN HOURS.

BY W. STROUD, M.D.

FRED. P., aged 29, after anxiety and vexation endured for a considerable time, and after having been liable to profuse bleeding from the nose during the spring season, for many years, was, on the non-occurrence of this bleeding, subject for six weeks to a sense of fulness in the head, with lassitude and somnolency.

On the morning of April 27, 1839, after having returned from Covent-garden market, he was seized with faintness, giddiness, vomiting, and insensibility. The pulse became imperceptible, and he was, apparently, in a dying state. He was promptly bled by Mr. Symes to three pints; recovered a little, continued complaining of great tightness of the chest and weight at the heart, but died the same evening.

The pericardium contained a quart of blood, which had escaped through an opening in the right auricle, just below the insertion of the vena cava superior; the edges of which were not attenuated, or apparently ulcerated. The author accordingly suggests the prudence of relieving plethoric oppression, even where signs of structural disease in the sanguiferous system are not evident. In this patient the heart was large, and loaded with fat.

Mr. Dalrymple had seen three cases of rupture of the left ventricle of the heart. In two of these cases death occurred instantly; in the other instance, which was under the care of Dr. Farre, the patient lived eight days after the heart was first ruptured. The patient was a married woman, who lived very unhappily with her husband. During an altercation with him, at a public-house, she became much excited, and fell to the floor in a fainting fit. Her extremities were cold, and she laboured under all the ordinary symptoms which accompany excessive hemorrhage. From this state she recovered, was brought home, and Dr. Farre saw her. She then complained of a fixed pain in the heart; this disappeared at the expiration of four or five days, leaving her well, with the exception of excessive weakness. At the expiration of eight days from the first attack, she became again excited in a quarrel, fainted, and did not recover. On examination, the pericardium was found to be much distended with blood, which had become coagulated in two distinct layers; that nearer the pericardium being firmer, and having less colour than the more internal layer. The rupture was situated in the left ventricle near the apex. The orifice was small, so that a probe could be passed into the heart with difficulty, and the passage, which was very oblique in its direction, took a sinuous course through the fibres of the heart. It would appear that the preservation of life, after the first attack, was owing to the coagulation of blood in the muscular structure of the heart, which occurred during the fainting. This was broken through during the period of the second excitement. In the two other cases, also, the rupture was dependent upon mental emotion.

Mr. ALCOCK related a case in which a musket-ball penetrated the heart, and the man lived for forty-eight hours afterwards. There was but a small quantity of blood found in the pericardium.

Dr. KING recollected a case in which a man, during the time he was robbing a garden, was stabbed with a bayonet; the instrument transfixed both the ventricles of the heart, but the man was able, with a musket in his hand, to jump over two high fences. He then fell down suddenly, and died. Some blood was found in the pericardium.—*Ibid.*

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MEDICAL AND PHYSIOLOGICAL COMMENTARIES. By MARTYN PAYNE, M.D., A.M. Vols. 2, pp. 716–815. New York and London, 1840.

THE main subjects of these commentaries are—1. VITAL POWERS. 2. PHILOSOPHY OF THE OPERATION OF THE LOSS OF BLOOD. 3. THE HUMORAL PATHOLOGY. 4. PHILOSOPHY OF ANIMAL HEAT. 5. PHILOSOPHY OF DIGESTION. 6. THEORIES OF INFLAMMATION. 7. PHILOSOPHY OF VENOUS CONGESTION. 8. COMPARATIVE MERITS OF THE HIPPOCRATIC AND ANATOMICAL SCHOOLS. 9. ON THE PRINCIPAL WRITINGS OF P. CH. A. LOUIS, M.D. They are disquisitions on important questions in physiology, pathology, and therapeutics—with an amplification of argument, and variety and precision of bibliographical details, which, in this age of microscopical examination on the one side, and transcendental vagaries on the other, is truly instructive and refreshing. It is easier by far to praise and admire the laborious research of the author than to imitate him; but let not the inability to do the latter prevent the former, which Dr. Payne may rightfully claim as his due. If the "Commentaries" afford, as they do, food for the "mind contemplative" of the learned physician, they will also, and herein we would especially recommend them, habituate by their perusal the young student, and the yet imperfectly read practitioner, to inquiry and reasoning on the phenomena of life and the modifications to which they are continually subjected. Our recommendation of this work would be nearly as strong even if we differed from the author in some of his conclusions, as it would be if these were entirely in coincidence with our own opinions. We deem the perusal of his essays a healthy and strengthening exercise, in the taking of which, much good will be gained in the course of the journey over his pages, many new facts acquired, and pregnant hints offered, even though at the end the traveller may not acquire possession of an El Dorado or a mine with unalloyed gold.

The poverty, we might almost call it meanness, of professional attainments of the majority of those who have for years issued from our Medical Colleges, is such as imperatively to call for either a direct enrichment of the materials of the common stock, or a guide to render those which have been long in existence available. The slang of practical knowledge bids fair to drive away both the knowledge itself, and the adornments by which it has been hitherto distinguished. A medical writer now-a-days has hardly the patience to give a clear and connected description of a disease similar to that which imparts value to the best writers, from Hippocrates to Fordyce; so intent is he on finding out a probable lesion in some organ, or in showing what enormous doses of calomel his patient could swallow. Contagion, miasm, galvanism, are the catchwords of explanatory causation of disease; and one might sometimes doubt whether the full description of the states of atmosphere, its successions and alternations, and an appreciation of the modifying influences of season, food, and moral emotions found in our admirable medical classics but now old-fashioned and neglected writers, be at all worthy of imitation. Symptomatology is merged in a few symptoms supposed to indicate hepatic derangement. Semeiology is made to consist in watching the signs of mercurial action, or the results of some new medicine which is to cure every disease in every stage. Diagnosis and prognosis have become terms of form more than a positive and real expression of the present stage and probable future changes and termination of a disease—and such is the haste, and exclusiveness from haste, of the young medical man, that the fresh additions to these branches of late years, in a better knowledge of physical signs, are of doubtful benefit, by the disregard into which, indirectly, it has led of the large general picture of the disease and its mutations, as portrayed by physiological signs or sympathies.

We would very gladly, did space allow, enter into an analysis—we will not say a critical one—of Dr. Payne's Commentaries; but we must rest content, for the present, with pressing them on the attention of that class of medical men who may be the least inclined to encounter a continuous perusal of the two large volumes of which the work consists. But they are not obliged or expected to read them through at once. Let them rather take up one of the important themes discussed, and study it with care; and then, after a due interval, we will not prescribe its duration, go on with another. Every hour honestly devoted to a study of the work will create, we are sure, fresh desire, and what is more, will give increased ability for farther progress over its richly adorned pages.

A SYSTEM OF PRACTICAL MEDICINE: Comprising a Series of Original Dissertations. Arranged and Edited by ALEXANDER TWEEDIE, M.D., F.R.S., Fellow of the Royal College of Physicians, Physician to the London Fever Hospital and to the Foundling Hospital, &c. Vol. I. *Fevers* and *Diseases of the Skin.* Pp. 51. 8vo. Philadelphia: Lea and Blanchard. 1840.

THIS is the first volume of a series which it is the intention of the American publishers to reprint from the London editions, in the order of publication there. We may mention, in advance, that each volume is so far complete in itself as to have no necessary connexion with the others of the series, except that which necessarily exists between one disease or group of diseases and another.

The volume now before us is entitled *Dissertations on Fevers*, *General Pathology*, *Inflammation and Diseases of the Skin*, contributed by Drs. Symonds, Allison, Christison, Schedel, Locock, Gregory, Burrows, and Shapter. It has the advantages, with some of the drawbacks, possessed by a general dictionary or cyclopædia of medicine: fulness of information and independence of view on the several subjects compensating for the want of unity and harmonious proportion that might be given to them if they were the production of one mind. The authors of the different dissertations do not profess to give a complete system; the time for such promises is past, and that for their realization is not yet reached. But they do better: they give quite full summaries, good compilations, in fact, of the *Nature of Disease*, the *Phenomena* of *Inflammation* and its *treatment*, the *General Doctrines of Fever*, including *continued*, *intermittent*, *remittent*, *yellow*, *infantile gastric remittent* and *hectic*, also in *small-pox*, *measles*, *scarlet fever*, *puerperal fevers*, and finally *Diseases of the Skin*. We shall not stop to inquire just now into the philosophy of the views entertained by the able writers of the dissertations, nor in the coincidence with, or discrepancy from, works already current amongst us. The main point of concernment to our readers, and to the profession in general, is the fact, that in this volume they will find much useful and instructive matter, additional to that which they may be supposed to be already furnished with: and hence their possession already and even perusal of other works on fevers, will not dispense them from the necessity of adding the present volume to their list. Whoever shall admit that he wants additional information on the pathology and treatment, and even prevention of fevers, must naturally desire to have access to these dissertations; which, with all their value, will not stop the way to other works on the same and kindred subjects.

The June number of the *Western Journal of Medicine and Surgery*, by Drs. Drake and Yandell, has recently come to hand. Of the numbers intermediate between this and the January one we are entirely ignorant, as they have not reached us. The editorial article in the June number on the Epidemic Fevers of Natchez, Mississippi, in the years 1837–'8–'9, by Dr. Samuel Hogg, is an instructive one. The writer states that malignant double tertians, the dreaded congestive fever of the south and west, occurred in the summer and fall of 1837. "Some died in the first cold stage, sinking immediately into a fatal collapse, and but few survived the third chill, unless it had been preceded by a prompt and active treatment." The chief outlines of the treatment were emetics of ipecacuanha and calomel, and the latter repeated alone "until secretion was procured from the bowels, with frictions perseveringly applied to the extremities, and warm drinks until reaction was established." After that quinine in large doses, ten grains every hour or two, was administered.

> "When the patient was not seen before the second chill, the extremities were icy cold, stomach very irritable, contents of the bowels liquid; a warm mustard, pepper or salt bath, or mustard sinapisms to the stomach and extremities, blisters, quinine as above prescribed, alternated with calomel twenty grains, sulph. morph. 1-6th grain, together with warm stimulating drinks, seemed to snatch the patient from the jaws of death, and relieve him contrary to the expectations of friends or physicians."

The chief subject of the papers is an account of the yellow fever as it prevailed at Natchez in 1837 and 1839.

There is an article in this number of the Western Journal, by Dr. Cartwright, on the "*Proofs of the health-preserving properties of the Jussieu Grandiflora or Floating Plant*," which in a hygienic point of view merits consideration.

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OBSERVATIONS OF TENOTOMIA AND MYOTOMIA, FOR THE CURE OF DEFORMED MEMBERS; ANATOMICALLY, PHYSIOLOGICALLY AND THERAPEUTICALLY CONSIDERED. WITH SEVENTY-FOUR CASES.

BY ALBERT G. WALTER, M.D., OF PITTSBURGH, PA.

The late discovery of tenotomia evidently proves, that the minds of men, in many instances, have been kept under the influence of opinions and doctrines which were not founded in truth; and that one of the greatest obstacles to the progress of science is that obstinate adherence of men to the ideas with which they are familiar, and to the principles with which they are acquainted. This alone, and not the want of ability of our professional forefathers—not their want of observation and reflection, prevented the introduction of this operation centuries ago.

The nineteenth century has exhibited impartial investigation and close observation, combined with judicious reflection, in every department of science; and for it, too, was reserved the overthrow of the orthopædia of the old school, and the establishing a new and successful practice, correct in its principle, which will stand as long as surgery is a science. With it the torturing contrivances of orthopædial machinery gave place to a simple and expeditious instrument—the knife; and the former only remains to posterity as a striking memento, that "*jurare in verba magistri*" ought not to be tolerated.

Several treatises on club-foot have lately appeared in Europe; among them Scoutetten's* deserves to be attentively perused by everybody who takes an interest in this operation.

In this country many surgeons have done justice to this new practice; among whom are Dr. Mütter, of Philadelphia, and Dr. Wm. Detmold, of New York; who have laid before the profession some valuable observations. But as the subject is new, and cultivated only by few members of the profession, I believe it a duty incumbent on every one who has had sufficient opportunities to test its practicability, to submit his observations to the profession, to enable it to obtain a thorough and perfect understanding of it.

Differing in some points in regard to the treatment of deformed limbs, and in view of the process of reparation of the divided tendons, and their consequent anatomico-pathological condition at the point of reunion, from the practice and opinion hitherto advocated, we intend to offer some observations, to which we will add a number of cases supporting, as we think, our views.

The principle being established, that deformities, in nearly every instance, depend on muscular contraction, in consequence of which the articulating surfaces of the bones become wholly or partially displaced, the ligamentous connections and the aponeuroses shortened, and that the division of these contracted parts will restore the limb to its natural shape and position—the question remains, whether in the different varieties of deformed feet and members, *some, or all*, the contracted muscles, tendons, ligaments and aponeuroses, ought to be divided?

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* Which has been reprinted in the library of Professor Dunglison.

Before entering into an examination of the relations of the constituent part of an inverted club-foot, (the pathological anatomy of which is admirably and satisfactorily given in Scoutetten's treatise, to which I refer the reader,) experience enables me to state, that in any case of club-foot, whether inverted, everted or phalangian, in which the section of the tendo-Achillis does not materially alter the shape and position of the foot, the section of other tendons, and also of the ligaments, ought to be performed at once, in order to save time and pain to the patient, and to accomplish a more perfect cure. We now regard the skilful section of the tendo-Achillis as trifling and unattended by any serious consequence; why, therefore, should we hesitate to cut other tendons participating in the contraction, by which the deformity can often be remedied instantly? The operation when performed on all contracted tendons and muscles at the same time does not inflict much more pain, nor is it attended by any serious consequence; and the great advantages are—shortening the cure, lessening the pains arising from the extension of the tendons and ligaments not cut.

To be convinced of the propriety of the practice, let us analyse a dissected inverted foot in an aggravated form, and we will see that the contraction of the tendo-Achillis is not sufficient to cause such a degree of deformity; nay, it is but trifling in itself. So convinced am I of this fact, that if the alternative were left to me either to divide the tendo-Achillis, or the other equally concerned, I should not hesitate to prefer the latter, and trust to the mechanical extension of the tendo-Achillis.

I arrived at this conclusion by carefully dissecting inverted club-feet. I divided first the *tendo-Achillis*, after I had laid back the skin, and tried to bring the foot to its natural position. But I failed in the attempt. The *tendo tibial. antic. et postic.* being strongly contracted, had raised up to the sole of the foot and turned it somewhat inwards, in consequence of which the superior articulation of the astragalus is thrown outwards, and the *malleolus internus* is brought nearer to the *calcaneus*, constituting what is called a subluxation of the joint. The external surface of the trochlea of the astragalus, by protruding anteriorly, is not in contact with the external malleolus. Would the simple contraction of the tendo-Achillis cause this state? Certainly not: the calx would only be raised, but the astragalus would not be turned on its lateral axis. The greater or less luxation of this bone affords more or less difficulty to remedy the deformity.

The division of both these tendons (tibial. antic. and postic.) allowed the replacing of the astragalus under the articulation of the tibia, and the sole of the foot could be brought down, while the *internal annular ligament*, being attached to the posterior part of the *malleolus internus* and to the *os calcis*, and being much thinner than the *anterior annular ligament*, is easily stretched; but still the foot inclined much inwards, and its back remained very convex.

The *flexor communis digitorum brevis* with the *aponeurosis plantaris*, offer great resistance to the extension of the sole of the foot, which will be easily effected when they are cut; and as a consequence, the prominence formed by the opening of the articulation between the *os calcis* and *os cuboides* on the outer side of the foot, will disappear: but the section of these tendons being made, the foot will still incline, and complete eversion is impossible. The contracted tendons of the tibial. antic. and postic. muscles have raised the inner side of the foot and brought the *tuberculum oss. navicularis*, which, in a well shaped foot is about an inch distant from the inner edge of the malleol. intern., in immediate contact with it by the shortening of the *anterior and internal annular ligaments of the tarsus.* The first of the ligaments being inserted in front of the malleol. intern. is expanded over the *os naviculare ;* the latter, or ligament. deltoid., arising from the posterior margin of the malleol. intern., is attached into the inner tuberosity of the os calcis. By the shortening of the anterior annular ligament the os naviculare becomes displaced, and goes inwardly from the round head of the astragal., followed by the os cuboides, leaving a space between itself and the anterior parts of the os calcis. The section of this contracted ligament between the tuberculum oss. navicular. and malleol. intern. is indispensably necessary for the easy and perfect eversion of the foot. If its section be completely made, severing the os naviculare entirely from the malleol. intern., the head of the astragalus will be wholly covered by the cavity of the os naviculare and regain its natural position, and the sole of the foot itself will allow of greater extension, and the convexity of its back will disappear.

I call the attention of the profession in particular to this point, which neither Scoutetten, nor any other surgeon, as far as I know, has mentioned, though all are aware of the difficulty of completely everting club-feet. Can we suppose that this thick and shortened ligament would easily and perfectly yield to the extension of more than an inch without being cut?

The division of the *flexor communis digitorum longus*, of the *flexor pollicis pedis longus*, and of the portion of the *abductor pollicis* inserted into the *os calcis*, will also aid in rectifying the foot, if they should participate in the contraction.

If, then, a complete section of all these muscles, tendons, ligaments, and aponeuroses, will allow of an easy reduction of the member to its natural shape and position, and if all these parts can be divided with perfect safety by making only a few incisions in the skin, which I have proved by the success of my cases; and if no untoward circumstance follow the operation performed after this manner, I do not see any reason why we should hesitate to perform the operation as described; more especially as the extension is easier, the time much shortened. Every surgeon who has experienced the painful and tiresome process of everting the foot, and guarding the very tender skin of some patients against the constant pressure, and consequent sores which interfere with the continuance of the extension, must grant that a greater degree of pressure is necessary to evert and extend a foot while ligaments and tendons are undivided, than when their section is performed; and that after all his trouble the back of the foot will remain very prominent, which even the weight of the body during years' exercise cannot entirely overcome. But the foot will easily turn out and its convexity disappear during extension of the *anterior annular ligament*, and the *aponeurosis plantaris*, with other tendons, previously divided.

Though we are not partial to using the knife, when it is not absolutely necessary; nor to have recourse to an operation, if not indispensable, experience urges us to state that the section of all the muscles, tendons and ligaments implicated in the contraction is not only important to success, but will save much time and trouble both to patient and surgeon. We know very well that *other* tendons beside the tendo-Achillis have been divided, either simultaneously or at intervals of some days, by several surgeons; but, generally speaking, too much stress has been hitherto laid on the section of the tendo-Achillis to the neglect of the other tendons, and *without any regard* to the contracted ligaments. I do not deny the practicability of effecting a cure in some cases of club-foot by the division of the tendo-Achillis alone, but positively reprobate this practice in cases of grown people offering the deformity in its aggravated form.

We wish, however, to be understood, that the various degrees of club-foot and its varieties do not present the same number and the same tendons affected, but that it is left to the surgeon to decide which tendons are contracted. Children and persons of delicate frame, weak muscular system, will generally present slight cases requiring the section of only few tendons, while persons advanced in years and of firm muscular fibre will be afflicted with the deformity in a very aggravated form, which will require the operation on a more extended scale.

To perform the operation on the different tendons "*en deux temps*," as is done by several surgeons, is unnecessary, as it has been found that there is but little reaction after the division of all the contracted tendons, provided it is done with a sharp knife and the least possible incision of the skin.

With regard to the *operation* itself—each of the tendons, muscles and ligaments above mentioned, can be divided with safety, and no risk from being embarrassed by bleeding will be incurred, if we select the proper place for their section. The arteries in inverted club-foot of grown persons are much lessened in their diameter, and can be easily avoided.

It has been my practice to divide the *tendo-Achillis* one inch, or a little higher, above the os calcis, by passing the knife flatways between the tibia and tendon from the inner side without penetrating the skin on the opposite side (no important part will be injured, the posterior tibial and the peroneal artery being out of reach), turning its edge towards the tendon and withdrawing it, its point gliding along the inner surface of the skin, which insures a complete section.

For the division of the *tendo tibial. antic.* and *postic.*, the *anterior annular ligament*, and, if necessary, of the *flexor communis digitorum longus*, I pass the knife parallel with the longitudinal axis of the foot through the skin in the bend of the foot formed by its inclination below the anterior margin of the malleolus internus, and taking hold of the foot with the left hand, and extending it, I divide the tendo-tibialis anticus just above its insertion, then pass the knife deeply between the malleolus internus and tuberculum ossis navicularis, severing the thick annular ligament by repeated sections, and proceed with its section till I feel the knife grating against the capitulum ossis astragali; being sure that a complete section is made. Then turning the knife through the same orifice of the skin to the posterior part of the foot, I divide, just below the margin of the malleolus internus, the *tendo-tibialis* and *postic.*, and if necessary, the *flexor communis digitorum longus*, both being covered by the *internal annular ligament*, which forms separate channels for each of them. I do not carry the knife under these tendons, which would be difficult, but cut from above downwards, severing the internal annular ligament along with the tendons.

To operate, however, in this region with perfect safety, I do not carry the incision *beyond a line drawn perpendicularly over the middle of the malleolus internus*, lest the *posterior tibial artery*, passing in a sheath of the internal annular ligament (ligamenteum deltoidium) along the sulcus of the posterior part of the inner ankle, between the flexor communis digitorum longus and the nervus tibialis, be divided. If the operation is done with this precaution, the tibial artery is out of danger, and no bleeding will follow. But by doing so, cutting into the astragalo-malleolar articulation cannot be avoided, and some surgeons, impressed with the belief that this practice would risk the safety of the patient, will feel disposed to reprimand us. Indeed, before practising this operation, we regarded incisions of the joints as very dangerous; but the operation on club-foot has revealed to us with what impunity a lesion of joints will be borne, if done with a very sharp knife, and with the smallest incision of the skin. Indeed, I firmly believe, that every joint in its healthy state will bear the injury of an incision made with the above precautions, and that the dangerous consequences resulting from accidents inflicted with cutting instruments are to be attributed to its shape and dulness, the exposure of the joint by a large incision of the skin, the lesion of the bony and cartilaginous apparatus, the degree of violence with which the injury is inflicted, and to the bad after management, though there are many cases on record where, even under such circumstances, the joint has been almost perfectly recovered.

It will sometimes happen that, while severing the *tendo tibial. antic.*, the *vena saphena interna* running close to it will be divided; but this cannot be embarrassing, as compressing the wound will readily arrest the bleeding.

Should the *flexor pollicis longus* be much contracted, its section is to be performed just behind the articulation of the os metatarsi pollicis and first phalanx of the big toe. On this point, by passing the knife close to and under the tendon (after it is made tense by extending the toe), from the inner side, and cutting it from below upwards, the *internal metatarsal artery* running along the inner side of the tendon will not be interfered with. The *abductor pollicis* is to be divided at its posterior attachment by grasping it between the fingers, introducing the knife below its body at the point of union of its two heads, and by cutting from below upwards; the knife being kept close to the muscle in order to avoid the internal malleolar artery, which passes along and under the outer side of its belly

It is true that the ligamentous connexions of the tarsal bones on their surface have contracted in consequence of the convexity of the back of the foot, and the separation of their upper articulating surfaces. But these being thin, will readily yield when the tendons and ligaments are divided.

There is more difficulty in operating on the small feet of children; the arteries and tendons are closer and the skin is fatter, preventing an exact examination of the implicated tendons. But fortunately only a few tendons are contracted in infancy, the ligaments in general easily yield, and do not offer the same resistance as in grown persons. The operation is to be performed in the same manner and at the same points as described, but with a much smaller and shorter knife.

I have performed the operation as above detailed in more than fifty instances, and can positively say, that I have never met with any serious accident, either from bleeding, or subsequent inflammation; that I could go on extending the foot easily and rapidly without inflicting much pain on my patient, and that in the worst cases extension for four or five weeks was sufficient to restore the foot perfectly, while in slighter cases the cure was completed in from five to ten days.

It has repeatedly happened that the tendo-Achillis was only partially divided during the operation, and that the section had to be performed afterwards. The audible crack following the cutting of tendons and their sudden retraction does not prove that the section is complete, unless the extremities of the cut tendon can be felt apart, and for this reason I permit the knife to glide along the inner surface of the skin whilst dividing the tendon.

Can the fibro-cellular sheath enveloping the tendo-Achillis be saved, whilst the tendon itself is divided? and is it important to the process of reunion to preserve it from injury? In denying both these questions, I believe I am opposed to the opinion of some surgeons. With respect to the former, Dr. Mütter says, that once after having divided the tendo-Achillis, he subsequently found its sheath resisting, and that he had to cut this also. It appears to me beyond all doubt, that the tendon cannot be completely divided without cutting its sheath, and that Dr. M. had left some fibres of the tendons itself undivided, and mistook them for the undivided sheath. The fibro-cellular tissue covering the tendons is loose and yielding, and would never offer so great a resistance; moreover, it is closely attached to the tendons.

With respect to the latter question; some surgeons have dwelt particularly on the importance of leaving the sheath undivided, and have explained, with much theoretical reasoning, the process of reunion favoured by the undivided sheath. They say, the tendon being cut, retracts; the space between the cut surfaces is filled with blood, afterwards with lymph, and in this way the organization of a new substance uniting the extremities of the tendon is carried on. We will offer our views, based on post mortem examinations, on the importance of saving the fibro-cellular sheath when speaking of the process of union of divided tendons.

Another form of club-foot, the very reverse of the former, is represented in the *everted club-foot*, or *pes valgus* of the old school. The reader will find its anatomical description satisfactorily given by Scoutetten. This deformity is caused by the contraction of the tendo-Achillis, favoured by a relaxation of the ligaments of the tibio-astragalian articulation of the inner side, in consequence of which the muscles whose function is to evert the foot (*musculi peronei*) become shortened, while the inversores and flexores (principally operating in inverted club-foot) are lengthened. The appearance of the foot is remarkable: the back is very flat, and the sole entirely level, without the natural hollow of the instep. The tuberculum ossis navicularis is very prominent, and far from the inner edge of the malleolus internus. The astragalo-navicular articulation is relaxed, facilitating the greater eversion of the foot, and the astragalo-tibial articulation is uncommonly limber, so that the foot, if unsupported, constantly inclines outward. The superior articulation of the astragalus has slipped inwards, and the articulations of the tarsal bones in the sole of the foot are more or less opened in consequence of the flattened state of the back of the foot. The cuboido-calcanian articulation is much narrowed. The person walks on the inner side of the foot, the outer being drawn upwards. The malleolus internus is very prominent, whilst in inverted club-foot it is generally wanting.

To remedy this deformity, the tendo-Achillis and both peronæi muscles must be divided. The division of the former alone will not perfectly restore the foot if the deformity is of long standing. The peroneus longus is inserted into the inferior face of the first cuneiform and os metatarsi ———; the peroneus secundus and brevis covered by the peroneus longus into the os metatarsi quintum. Both these muscles can be divided with safety, although covered by ligamentous fibres just below the malleolus externus, by cutting from above downwards. Scoutetten prefers their section above the malleolus externus near the edge of the fibula; but I believe they can be more easily divided below the malleolus, where they become tense, when the foot is forced into its natural position.

The operation for this deformity is more simple and easy than for the first described, and the after treatment gives less pain and trouble; but owing to the relaxed state of the flexor tendons and the ligaments below the malleolus internus, especially in cases of long standing, the unnatural eversion of the foot will reappear as soon as the support is taken off, even after the foot is straight and has been kept in its natural position for a length of time. The cure of this deformity, therefore, is not so striking, and much more time is required to support the foot, even in children, than in inverted club-foot. The reason seems to be this. After the cure of inverted club-foot, the weight of the body and exercise tends to keep the foot in its natural position; whilst, after the cure of everted club-foot, on account of the great relaxation of the ligaments around the malleolus internus, the foot, if not properly supported, will sink on its inner side under the weight of the body. If we could use means to strengthen these ligaments and tendons, or promote their contracting, the cure would be more perfect. A frequent cause of this deformity is a sprain of the ankle-joint, or sub-paralysis of the foot.

Every case of inverted club-foot irrespective of age* will admit of being perfectly restored without the slightest risk of a relapse, but in everted club-foot of long standing the foot of the patient requires to be supported, lest the deformity reappear.

The *third species* of club-foot is the *phalangian club-foot*, or *pes equinus*. It consists, in its more simple form, in the contraction of the tendo-Achillis only, and can then be very easily remedied; but if the deformity runs on unchecked, the flexor digitorum communis brevis, with the aponeurosis plantaris and the flexor proprius pollicis pedis, will contract, in consequence of which the back of the foot is made very prominent and the sole very hollow. Frequently the astragalo-scaphoidian articulation gives way, and the head of the astragalus projects considerably. If walking is much practised, the inner side of the foot will be raised from the concomitant contraction of the tibialis antic. and posticus muscle, the astragalus will be slightly thrown outwards, and the tuberculum ossis navicularis come in closer contact with the malleolus internus, inclining the foot inwards. The patient generally walks on the tip of his big toe; occasionally the toes turn under, and the weight of the body rests on the back of the toes.

This deformity is mostly acquired, and in its earliest stage readily remedied by the division of the tendo-Achillis, flexor communis digitorum brevis and aponeurosis plantaris; but in its aggravated form a complete cure is more difficult; and, according to my experience, more tedious than in inverted club-foot. The articulations of the tarsus have given way too much, and their replacement is very difficult, on account of the very great convexity of the dorsum pedis. We shall generally succeed in making the foot straight and useful, but not entirely remove the convexity of the back. In very difficult cases the tibialis anticus, posticus, flexor pollicis pedis proprius, and the anterior annular ligament, should be divided.

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* Except in cases of ankylosis of the foot-joint, but we doubt if it ever exists in conjunction with this deformity.

The *fourth and last species* of club-foot, mentioned for the first time by Scoutetten, is the *Calcanian*. It is a very interesting variety, and much more rare than either of the former. It has not yet fallen under my observation, and therefore I will refer the reader again to Scoutetten's treatise. The tibialis anticus muscle, extensor proprius pollicis pedis, and extensor communis digitorum pedis, must be divided to restore it.

Surgeons in every age have taxed their power of invention to produce instruments adapted to the various surgical operations; and every new operation, although in itself simple, adds to their number. Tenotomia, although but of yesterday, has already been performed with differently-shaped knives, which have their several advocates; as if success depended not on the hand that guides them, but on the instrument itself. For its performance, any small-bladed, sharp-pointed knife will answer. However, I prefer a slightly concave, very narrow, sharp-pointed knife, for this reason,—that in cutting the tendons from below upwards, its point will easily glide along the inner surface of the skin when withdrawn, and insure a complete section. With a convex-shaped knife, this manœuvre cannot be so conveniently performed, and some fibres might remain undivided. In some cases I found it very serviceable to use a strong cutting knife, rounded at its point, for the division of the anterior annular ligament, in preference to a sharp-pointed one, whose point might break by severing this strong ligamentous connexion. It is entirely unnecessary to use two knives at a time; one for making an incision through the skin, and the other for cutting the tendon.

It cannot be denied that the success of the cure will depend on the operation being skilfully performed; but it is also true, that the after treatment is of paramount importance. If this be not judicious, the effect of the operation will, in a great measure, if not altogether, be lost. A proper apparatus for the rectification of the foot, and a perfect knowledge of the condition of the displaced bones, is all that is required. Strohmeyer's apparatus is, indeed, the best for fulfilling all the indications, and though similar ones are used by Scoutetten and others, yet we prefer the former.* As we have made some additions to its machinery, which we have found very advantageous, we intend to describe them when speaking of the practice we follow in the rectification of the foot.

The *main object* in the after treatment of inverted club-foot should be to change it into the *phalangian* form; or, properly, to evert the foot before the attempt is made to bring down the heel. For this purpose we place the leg in the leg-board, and fix it in this position by several straps crossing in front of the leg and passing through holes in the board. We then evert the foot as much as possible without causing much pain, and adjust the sole to the foot-board, so that the inner edge of it is raised higher than the outer, which the machinery connecting the two boards will easily allow. The foot is best attached to its board by a kind of halter passing round the ankle, and by several straps crossing its back. After the foot is thus placed in the frame, the heel will appear much raised, giving the appearance of the phalangian club-foot. Every day I then draw down the inner side of the foot, and evert it till the big toe is in a line with the inner edge of the patella. But to do this properly and more conveniently, I have attached a pad with a screw to the inner corner of the leg-board, which rests against the inner condyle of the tibia, and prevents the knee from turning inwards while the foot is kept everted. To support the ankle-joint more firmly in the apparatus, and to facilitate its replacement, I have constructed a concave pad, pressing against the malleolus externus, which is gradually turned by the screw every day till the replacement of the astragalus is finished. There ought to be also a pad resting on the prominence formed by the anterior part of the os calcis and cuboides, in order to close the opening of this articulation whilst the foot is everted. After the foot is properly everted, and its inner side brought sufficiently down, and when the astragalus has been perfectly replaced under the articulation of the tibia, and the inner ankle has become somewhat prominent, I commence extending the tendo-Achillis ; and I am convinced, from the condition of the displaced bones, that this practice is preferable to the simultaneous everting the foot and depressing the heel. The depression of the heel should be continued until it appears lower than the toes, in order that the ankle-joint might be pliable, which is materially important in walking. The inner side of the foot, also, must be properly brought down and rather lower than the outer ; for, if this be neglected, the patient will afterwards experience some straining under the external malleolus in walking. We have to continue the eversion of the foot until the prominence formed by the os calcis and cuboid has disappeared, and the os metatarsi digiti minimi is on a line with the outer edge of the calcaneus.

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* The description of which has been already given, some time ago, in the American Journal of Medical Sciences.

It will depend on the feeling of the patient, how much and how often we can extend the foot, and there will be found a great difference in this respect, owing to the individual sensibility. We generally could extend the foot once during the day ; sometimes oftener. Five days is the shortest time in which we succeeded in restoring the foot perfectly ; and in grown persons, and very deformed cases, we have been able to remove the extending apparatus in four or five weeks with perfect safety.

To protect the skin against the pressure of the bandages is a point of great importance ; for, in some patients, the skin will be found so tender and thin as to be unable to bear any tight bandaging for any length of time. These cases are exceedingly troublesome ; and it requires the greatest care to prevent irritation of the skin, by frequent washing with a solution of acetate of lead, and frequent dressing. Where the skin is fatty and tough, we need not dress the foot sooner than once in five or six days. The best protection for the skin is air-cushions, for cotton is generally too heating.

Should the skin become sore, we must discontinue extension and apply cooling applications, and renew the extension only after the skin has recovered ; for if pressure is continued the skin will slough, and very tedious sores will be the consequence.

In case of *phalangian club-foot* the process of extending is the same as in inverted club-foot ; but in *everted club-foot* we have to depress the *outer side* of the foot, and to extend the peronæi muscles before the tendo-Achillis. Strohmeyer's apparatus answers for this deformity as well as for the others, but pressure must be made against the malleolus internus while the peronæi muscles are extended, in order to replace the tibio-astragalian articulation. It must be admitted as a rule, that in every case of deformed foot the heel must be depressed lower than the toes; for if this be neglected, the patient will not have the use of his ankle-joint.

After the foot has been perfectly restored, a shoe well supporting it is to be applied; and we take this opportunity to make the remark, that although the foot is straight, success will not be certain unless the strictest attention be paid to the proper application of the shoe. Persons in poor circumstances frequently neglect this indispensable requisition, and the consequence is, that the toes will incline, although the sole is flat, and the heel down. In addition to the abnormal mobility of the knee-joint, which is so frequent in this deformity, children will incline the toes, in order to relax the muscles situated on the back part of the leg; and it is of the utmost importance to prevent this by a proper shoe, which we direct to be worn for at least a year and a half: moreover, the *extensor and adductor muscles*, (tibial. antic. and postic. and gastrocnemii), constituting a larger mass of muscular fibres than the flexors and abductors, maintain in the embryo and infant the inward inclination of the toes and the elevation of the heel. Drs. Mütter, Detmold, and others, being aware of this troublesome inclination of the feet, have attempted to obviate it by uniting the soles of both shoes with jointed iron-pieces, of which the one fastened between the toes is longer than that between the heels. This, however, does not in general answer for a common shoe, even with straps inside of it; it does not confine the fore part of the foot so much as to prevent its inclination. The grand object should be to keep pressure against the articulation of the anterior part of the os calcis and os cuboides, and to keep the *ligamentum plantare* and the *inversores* of the foot constantly on the stretch. After much trouble we succeeded in contriving a shoe which has never yet failed with us; and if worn for a length of time, the feet will become as straight as if they never had been deformed.

A laced boot, with four strings inside, two at the heel, and two at its middle; and with a jointed iron plate inside of the sole, which is cut in a semicircle; and steel springs along both sides of the leg, and joined behind by crossing bars, we apply immediately after the extension is finished. The foot is tightly kept in this shoe by lacing it; and then we turn the sole of the shoe outwards, and keep it in this position by a strap fastened to the outer edge of the sole and attached by a buckle to the heel. Several straps secure the leg between the steel springs. We can confidently say, that this contrivance of a shoe has answered with us in every instance; and that it must do so, is evident from the principle on which it is acting. We direct the shoe to be worn for a year and a half, day and night; and the foot to be occasionally dressed; during this time, and even much sooner, the ankle-joint will have gained sufficient strength, and a common shoe or boot can then be worn without any risk of the toes turning in. It remains to offer a few remarks on the *gait and carriage of persons* after the cure of deformed feet. Our esteemed friend, Dr. W. J. Little, of London, in his treatise on the Nature of Club-foot,* written with a profound understanding of its anatomy and pathology, and investigating the subject physiologically, speaks on this matter so satisfactorily that we cannot do better than to quote some sentences, as they coincide with our own observation and experience.

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* A treatise on the Nature of Club-foot and analogous Distortions, etc., by W. J. Little, M.D., London, 1839. We regret that we have not been able, as yet, to peruse this valuable work, as we received it just as our report was finished. It is one of the best monographs on this subject, and entitled to the earnest attention of the profession.

If the deformity is removed in the first few years of life the gait and carriage of the patient are quite natural; but in patients more advanced in years, there will remain, mostly through habit, in the gait and carriage, a slight limping, which can only be overcome by time, and assiduous attention on the part of the patient. In *phalangian club-foot* the affected extremity appears longer; the pelvis is raised on the affected side, with a slight lateral curvature of the spine, owing to the unequal lengths of the extremities. The muscles of the trunk and legs, and even those connected with the upper extremities, acquire certain unsightly associated actions by the continuance of the deformity. In *inverted and everted club-foot*, the pelvis of the affected side is lower, on account of the shortness of the extremity, and the spine is slightly curved. But although the deformity be removed, and the extremities rendered of equal length, or very nearly so, and the pelvis becoming natural, and the spine straight—still a considerable time must elapse before the habit of gait and carriage is altered, and the muscles of the trunk entirely lose their accustomed actions. If there is no perceptible disproportion in the length of the extremities, and if the ankle-joint is perfectly limber and pliable, the acquired habit of walking is the only cause of limping. The patient should, therefore, pay the strictest attention to his walk, for, unless he does so, his gait will not be entirely natural. The surgeon cannot do more than to insist on this injunction; to give a better gait and carriage is out of the reach of surgical means.

Before discussing the question (a point on which there is much discrepancy amongst surgeons), whether extension of the foot should be commenced *immediately* after the operation, and the cut surfaces of the tendons be kept asunder, or whether *time* should be allowed for reunion to take place—the foot remaining in its abnormal position, I will offer some observations, derived from *post mortem* examinations, in regard to the process of reunion, and to the pathological condition of the tendon after the operation (a very important matter). Many experiments have lately been made by Bichat, Bouvier, Duval, Delpech, Von Ammon, Phillips, and a number of others, to ascertain the process nature follows in repairing the injury done by the section of tendons; and all these authors agree, that after division the tendon retracts in its undivided sheath(?), leaving between its extremities a space, greater or less, to be filled up in the same manner as in fractured bones, or in any other breach of texture, but without suppuration. Although the ends of the tendon, according to their observations, do not come in contact, they nevertheless speak of the reparation as a union by the first intention. But is that to be called union by first intention when an analogous structure to the extent of an inch or more is formed, although suppuration be wanting? Does not union by first intention imply the idea of juxtaposition of the divided extremities? Bouvier, who advocates the immediate extension, has minutely described the process of reorganization at different periods from the time of the operation; which we believe, however, is not correct. When Bouvier advanced his opinion, that it is not necessary that the divided ends of the tendons should be in contact, in order to unite, as had been believed by Michaëlis, Delpech, Strohmeyer, and others, the question naturally arose " how far might the extremities of the tendon be separated without incurring the risk of non-union?" We see, that in fractures, separation of the fractured extremities cannot be carried beyond a certain point without incurring the danger of an artificial joint. But with regard to tenotomia, many proofs have been brought forward by different authors, to show that even when separated two inches reunion will take place; while some, as Strohmeyer and Clement, of Avignon, in similar circumstances, once observed non-union. Important as this question is, which, if settled, would establish a fundamental principle in the treatment of deformities, yet the experiments hitherto made have not solved it, while a very weighty point in the vitality of muscular fibres has been entirely overlooked.

It is well known that muscular and tendinous fibres when cut will suddenly retract, in consequence of the inherent vitality and elasticity of their structure. But does the divided muscle or tendon continue in this state of contraction? We think not. An analogous proof is found in cutting arteries. If an artery is entirely severed, the extremities will retract and the bleeding will cease, owing to their coats longitudinally and transversely contracting and closing the opening; but after some time the bleeding will return. How can this happen, if the extremities of the artery continued in a state of permanent contraction? But it is a physiological fact, that all muscular structure endowed with sensibility and irritability will contract on the application of a certain stimulus, and that relaxation will necessarily take place as soon as the effect of stimulation has ceased. Considering the action of the knife as a strongly stimulating agent, promoting the vascular contraction, we see that relaxation follows as the natural consequence of the former. The explanation of this process rests on a physiological ground; but there is another, based on physical laws. We cannot deny inherent power of the muscular fibres to contract and relax when their equilibrium is disturbed; and must also allow that, independent of this, relaxation to a certain extent will ensue, the same as we observe after the cutting of a tense cord. The sheath of the tendon cannot form the receptacle of the blood extravasated between its extremities, in which the organization of a new tendinous structure, described by authors, takes place. For we have stated already that it cannot be saved while the tendon is cut, notwithstanding all our pains to obtain this desirable object. Bouvier's theoretical description, therefore, of the process of reunion of divided tendons, does not stand the test of scrutiny—for practical observation is opposed to it.

Nature, powerful in its operations, and ingenious in its intentions, is too often, we own, misunderstood by its ministers; nay, even sometimes opposed by our officious interference. So it is in regard to the treatment of club-foot. The surgeon divides the tendons to rectify the deformity; immediately forces the foot into its natural shape and position, and keeps the cut extremities apart, which he expects will be united by an intermediate tendinous structure of a considerable extent. If he would carry out his intention, the effect of the operation would certainly be frustrated, for reunion could not take place. But nature, ever anxious to repair injury in the shortest time and with the least expense, attempts to bring about union by first intention after the cut extremities have nearly met in consequence of the relaxation of the muscular fibres. Even the most imprudent surgeon could not separate the cut surfaces beyond the point at which coaptation can take place, if a continued stimulus is not kept up by tightly applied bandages, which will prevent the relaxation of the muscular fibres, as might have happened with Strohmeyer in the case above mentioned. The ligamentous connection of the arch of the tarsal bones in club-foot prevents an immediate and entire restoration of the member to its natural shape and position; and as far as extension of the foot will be allowed, so far will the muscular fibres relax and the extremities of the tendon meet.

The process of union of divided tendons, which nature effects by the first intention, and not by the formation of an intermediate tissue, is like that of any other structure after coaptation is effected. The fibrinous portion of the exuded blood forms the uniting medium, which becomes organized, and scarcely a vestige of the new cicatrix is left at the place of union. This is confirmed by the observations of Bouvier and Von Ammon. The former states, that on patients examined at periods more or less remote from that of the section, the solidity of the uniting medium was such, that with great difficulty he could distinguish, by the touch, the place where the tendon had been divided.

The uniting medium itself, though very thin, is of a tendinous structure; showing at an early period tendinous fibres; and at seven months after the operation, we could not discover the place where the section was made but for the cellular tissue being more firmly united to the tendon at the point of the operation. A longitudinal section of the tendon itself did not show the least alteration of structure. This, we believe, is another proof of the correctness of our views, that union takes place by first intention. If carried on by an intermediate tissue of some extent, this certainly would afterwards be discernible by the touch or sight. But if the views of our opponents are correct, then are we indeed at a loss to explain why fractured bones, whose surfaces are separated to some extent, will sometimes withstand every attempt at bringing about union, even in the most healthy subjects, and under the best management. We should suppose that in fractures, as the bones are more abundantly supplied with blood-vessels, and covered with muscles offering great assistance to reparation, the process of reunion would be more speedy and certain than in tendons which are less vascular, isolated, and only covered by cellular tissue and skin. But experience has proved the reverse; the extremities of the tendon will unite nearly in every instance; while in fractures an artificial joint will frequently be the consequence. Moreover, we see that loss of muscular substance is very sparingly repaired, there being, generally, after cicatrization, an observable cleft between the cut surfaces; while in tendons united previously to their having been extended two inches or more, no trace of cicatrix can afterwards be discovered, nor even the slightest defect in its structure. I therefore firmly believe, that if the extremities of the cut tendon be kept constantly separated to the extent of two or three inches, reunion would not take place: the extremities would unite to the skin or periosteum of the adjacent bones, and there would then be left a deep and perceptible cicatrix. Are we not, therefore, justified in drawing this conclusion, when we observe deep cicatrices after the loss of muscular substance, in which the process of union will certainly be more vigorous than in the barren structure of tendons?

In conformity with the theory, that the reparation of divided tendons is carried on by an intermediate tissue of some considerable extent, our professional brethren have mistaken this supposed medium, which they describe as larger than the tendon itself during the first few weeks after the operation for the swollen but coaptated extremities of the tendon itself. The intermediate tissue is, in reality, very small, only agglutinating the cut surfaces; but these are swollen as are the lips of every wound. This swelling at the point of union is soon removed by absorption, and then the tendon appears as if it had never been divided. But suppose the surfaces of the tendon to be kept apart; would the process of reorganization in a structure, less endowed with vascularity than any other, be carried on so vigorously in a few days as to form a uniting medium of such extent and thickness? We do not deny that reunion by granulations, filling up the space between the tendinous surfaces, can take place in some rare instances, if we prevent coaptation; but still the process would be very tedious, and there would be rather a defect of the substance of the tendon than an increase of it at the point of union. Scoutetten prefers the immediate extension of the foot, on the ground that the uniting medium would be broken, while it has to be elongated. His theory is entirely erroneous; for he considers the tendinous cicatrix as an inorganic substance, and not endowed with the least vitality.

But taking it for granted that an intermediate tissue, to the extent of an inch or more, fills up the space between the extremities, would there not be a risk of subsequent contraction of this newly-formed medium, as is the case with every cicatrix? This is the reason why operators heretofore have failed in their efforts to restore club-feet. The formation of an extended medium was the desideratum, but the cicatrix, which had formed after tedious suppuration, contracted, and thus their efforts were frustrated.

(To be concluded in the October Number.)

PARTIAL AMAUROSIS—INABILITY TO DISTINGUISH CERTAIN COLOURS.

BY ISAAC HAYS, M D.*

Case 1.—Mary Bishop, ætat. 20, unmarried, segar maker, admitted February 9, 1839. The early history of this case has already been given† by my colleague, Dr. Fox; it will be sufficient, therefore, to recapitulate here merely its prominent features. The patient stated, that she had suffered, previous to admission into the hospital, two attacks of cerebral disease, one in the spring of 1837, the other in the winter of 1837–8. After recovery from the first attack, objects for a time appeared to her double. The second attack left her entirely blind, in which condition she continued for four months. After this her sight began to return and at the period of her admission into the hospital she could read large print, as the heading of a newspaper. She was of a short, robust stature, full habit, very dark complexion, black hair and hazel irides, flushed face, colour of her cheeks at times almost of a purplish hue: catamenia suppressed. When she first came under my notice, which was in May, 1839, she had been largely depleted and had taken remedies for the restoration of the menstrual discharge, under which treatment her sight had improved.

Whilst examining her at this time to ascertain the degree of vision she possessed, her reply to one of our questions led us to suspect that she was unable to distinguish colours. When asked whether she could see the figure in her dress, which was a calico one with spots, she replied "Yes, I see the *brown* spots." Our attention thus directed to the subject, we soon ascertained that while she could distinguish forms, even of small size, with accuracy, her perception of colours was exceedingly imperfect. Repeated and careful investigations during this and on several subsequent occasions, satisfied us that the only colours which she knew with certainty were *yellow* and *blue*. Nearly all other colours she termed brown, or hesitated to name, designating, however, their shades or intensity of colour accurately. Thus a deep red she called a dark brown, a bright green a light brown, and a very pale pink a very light shade of brown.

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* Report of Cases treated in the Wills Hospital for the Blind and Lame during the month of October, November, and December, 1839, with Observations. By Isaac Hays, M.D. one of the Surgeons.

† See American Journal of the Medical Sciences, for Nov. 1839, p. 16.

We exhibited to her both by day and by candle-light, a number of colours, and have them now in our possession, with the names she bestowed on them. With the exception of yellow and blue all the other colours were named with much hesitation, and some only after our insisting on her doing so, and she then manifestly named them by guess. We abstain from giving the details because we are satisfied they lead to no further useful results than to prove that she could not distinguish other colours than the two just mentioned. On one occasion our friend A. D. Bache, Esq., President of the Girard College for Orphans, visited the patient with us, and with a view of comparing her defect of vision with that of Mr. Dalton of Manchester, exhibited to her a number of fabrics of various colours, which he had received from that distinguished chemist, with their names, as they appeared to him, attached. Nothing new or worth recording was elicited by this experiment, unless the following circumstance, which for a moment greatly perplexed us, be considered as such: and it is so perhaps in one point of view, as showing how careful it is necessary to be in similar investigations to avoid being deceived. After manifesting her inability to distinguish correctly any except two colours, she surprised us by naming accurately the colour of some red silk, and which she had previously misnamed. A bunch of red cotton, however, shown her immediately afterwards, she termed brown. On inquiring why she termed the first red, she said that she had "discovered some days before that red produced sparkles before her eyes." Suspecting from this that she had been somehow led to connect glossiness with red, I called her attention to some bright, glossy *green* silk, which she promptly called red. When these same articles were shown her in such a light that she could not perceive their gloss, she miscalled them as usual. How the patient came to connect glossiness with a colour we could not discover, but as her defect was at this time known through the house it is probable that some one had shown her a glossy red and given her its name.

The patient was not at all sensible, when we commenced the investigation of her case, that she laboured under any particular defect in distinguishing colours. She had noticed, she said, however, that grass and roses did not appear as they formerly did to her; the latter especially did not seem of their natural colour; but as her sight was imperfect she considered this as a natural consequence. She remembered, when questioned, that as her sight began to return, *the first colour she perceived was yellow.* This fact is of much interest, and she stated it with a degree of confidence, and mentioned some particulars which lead us to believe it to have been the case. She asserted most positively also that she had formerly been as well able to distinguish colours as any other person.

With a view to a revulsive action on the brain, and also to re-establish the catamenial flow, the patient was ordered pills of blue mass, rhubarb and aloes, every alternate night, in a dose to purge actively; mustard pediluvia at bed-time, and a blister to the sacrum. Two days before her regular period I ordered, in addition, mustard cataplasms to be applied nightly to the inside of her thighs, and the same diluted with an equal part of flour to her mammæ.

On the 29th May her catamenia appeared and flowed copiously, but continued only for a single day. It was followed, however, by very marked improvement in vision. She stated to me at my visit on the 31st of May, with much satisfaction, that the roses now appeared to her of their natural colour, and that she could distinguish the difference between the colour of the rose and the leaves of the bush, which she had not previously been able to do. Roses of different colours being presented to her she named them all correctly; she could also distinguish quite small letters distinctly, but not more than three at one time—her field of vision seemed limited.

On the first of June Dr. Fox took charge of the hospital, and from this period until the commencement of my regular term of service in October following I saw the patient only at considerable intervals. During this time her sight improved and with it her ability to distinguish colours. By the middle of June she was able, she said, to see the eye of a needle and the end of a thread, but could not thread a needle from inability to see both at the same time. At this period Mr. Bache again visited Mary with me and exhibited to her the prismatic spectrum. She distinguished pretty accurately the yellow, blue, green, and red. The orange she hesitated about and the violet she could not name. The colours were shown her together and separately: under the two circumstances she said they appeared somewhat different. Her retina on this, as on former occasions, seemed soon to become weakened by use. She would gaze at a colour for some time before naming it, and when looking from one colour to another, the impression of the first seemed to remain on the retina and for a time confuse her perception of the second. To avoid fatiguing the eye by too much exercise and to insure the accuracy of our observations, it was necessary on all occasions to conduct the experiments slowly and at intervals, and with great care and caution.

On the 1st of October, when the patient again came under my care, her vision was in the state just described, but her catameniæ were still suppressed, and she was subject to occasional attacks of fulness of the head, during which her sight somewhat diminished. She also suffered during the early part of this month from attacks of dyspnœa, which came on every morning before dawn and continued for an hour or two.

October 18*th*. For the last three days she has suffered much from fulness of the head, Face flushed; pulse active. Ordered v. s. ℥xvj. and to be purged with senna and salts. These remedies entirely relieved her head, and on the 22d of October she was free from all uneasiness, and could distinguish the different colours in a dress readily, and also small letters. She was now ordered mustard cataplasms to inside of her thighs, to sacrum and mammæ, and mustard pediluvium at bed-time, with a view to a restoration of her catamenia.

25*th*. Fulness of head; has had a return of dyspnœa; costive; sight not so good. Ordered cups to sacrum; to be purged briskly; mustard pediluvia. These relieved the head, but the period passed off without any catamenial flow.

30*th*. Feels quite well. Sight good; can read readily the small print of a newspaper. Distinguishes all the primitive colours readily, and names most of the secondary ones as correctly as could be expected from one of her moderate intelligence, with the exception of violet: this last she seems always at a loss to name.

She would now have been discharged but for her earnest request to be allowed to remain in the hospital one month more, that another effort might be made for the restoration of her catamenia. It would be uninteresting to detail the treatment to which she was subjected during this month, and which failed in producing the desired effect.

November 30*th*. Discharged this day, with her vision restored, and in good health; the catamenia, however, still suppressed.

Remarks. The feature of most interest in this case is the inability to distinguish colours. This is, we believe, the first example hitherto recorded of this inability having resulted from disease, or been co-existent only with it. As a natural defect, the power of distinguishing forms being perfect, it is not rare. Several instances of this have come under our own observation, and not a few others have been mentioned by writers. Such of these last as have been recorded with sufficient details to furnish data for comparison, viewed in connection with the case we have recorded, lead to conclusions which it may not be uninteresting to notice.

1. As a natural defect, inability to distinguish colours may exist in different degrees.

2. In the worst degree, the individual is able merely to distinguish shades,—the perception of colour is entirely absent. Examples of this are afforded in the two Harris's, who could distinguish a striped riband from a plain one, but could

not perceive the difference between any one colour and another, except as darker or lighter,[*] and in Dr. Elliottson's second case.[†]

3. In the next degree, the individual can distinguish only a single colour, and that colour is always yellow. Thus Dr. Butter states that Robert Tucker knew to a certainty *yellow* only,[‡] and it appears that the boy whose case is recorded by Dr. Nicholl[§] was in the same condition.[‖] Now it may be called to mind that Mary Bishop states when her sight improved the first colour she recognised was yellow.

It may be mentioned here, as connected with this subject, that we noticed a similar phenomenon in the case of a lady whom we attended for amaurosis in the winter of 1837–8. This patient, who was quite blind, began to recover her sight, and among the early evidences of improvement she mentioned, was her ability to distinguish shades of colour, as the stripes in a Venetian carpet; she could not perceive, however, a single colour. When further improvement took place she stated that she could recognise the *yellow* colour of a large looking-glass frame. A relapse then took place, from which she has not since recovered.

4. We may consider as the next degree of this defect where the individual can recognise two colours only; and these seem to be always *yellow* and *blue*. This is the most common grade of this defect. Examples of it are afforded in Scott,[¶] Dalton and his brother,[**] in the case recorded by Dr. Nicholl in the Med. Chirurg. Trans. ix, 359; in that of J. B. related in the Transactions of the Philosophical Society of Edinburgh, vol. x, p. 253; James Milne,[††] Mr. C.,[‡‡] Mr. Troughton,[§§] and Dr. Elliottson's first case,[‖‖] and Sir David Brewster's case.[¶¶] Mr. Scott, J. B.[***] and Mr. C. were imperfect in their recognition of blue; in the other cases the perception of yellow and blue seemed complete.

It is remarkable that, whilst all the individuals who belong to this class of cases are able to discern yellow and blue, they cannot distinguish these colours when represented in a state of mixture. Green they do not know—they seem blind to it. They cannot perceive any difference in colour between a stick of red sealing-wax and a green table-cover; between the colour of the scarlet fruit of the Siberian crab and the green of its leaves, &c., &c.

So it was also with Mary Bishop: whilst able to detect yellow and blue she could not see the difference in colour between the red roses and their green leaves. It was not until her eye had become sensible to red that she could distinguish green.

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[*] Huddard, in Philosophical Transactions for 1777, p. 260 and 263.

[†] Am. Journ., vol. xxiii., p. 446. The narrator states that this patient was deficient in discerning two primitive colours. It is manifest from the account, however, that this defect extended to all, and that the gentleman could merely distinguish shades. The rainbow, it is said, appeared to him "as a band of a lighter colour than the other part of the sky, but a little darker at one side than the other, and gradually shaded off between the two sides."

[‡] Transactions of the Phrenological Society, p. 209.

[§] Medico-Chirurgical Transactions, vol. vii., p. 472.

[‖] It would seem, indeed, that it was only the lighter yellows that this boy recognized accurately; he confounded the darker with red. This last colour he is said to name correctly, but the whole account proves that he could not distinguish this colour. Thus he called green, red; light red and pink, blue; paper stained with red raddish root he termed blue; green spectacles he called red glasses, &c.

[¶] Philosophical Trans. for 1778, p. 612.

[**] Memoirs of the Literary and Philosophical Society of Manchester, vol. v., p. 28.

[††] Transactions of the Phrenological Society, p. 222.

[‡‡] Glasgow Medical Journal, vol. ii., p. 15.

[§§] Brewster's Optics, Am. ed., p. 260.

[‖‖] Am. Journ. Med. Sci., vol. xxiii., p. 446.

[¶¶] Optics, Am. ed. p. 260.

[***] The editor of the American edition of Brewster's Optics, in a note, p. 323, says, in relation to this case, "The Plymouth tailor, whose case is described by Mr. Harvey, seems not to have been entirely blind to red light, and to have been in a measure blind to blue." He has been, we believe, misled in the former inference, by the account of Mr. Harvey, who was himself deceived by the individual naming scarlet correctly on one or more occasions, by *guess*. A careful examination of Mr. Harvey's statement, will, we conceive, justify this belief. This disposition to *guess* the names of colours is generally manifested by persons who have the defect under consideration; and the errors to which this may lead must be carefully guarded against.

5. It seems probable that individuals who are able to recognise *accurately* the three primitive colours, can also distinguish the secondary ones. To future observations must, however, be left the decision of this question. But persons whose perception of red is imperfect do not accurately discriminate the secondary colours.

As the imperfection in vision we have been noticing is a very curious one, it may be allowable here to call attention to some further facts connected with it.

It must be remarked, that whilst those who labour under this defect naturally are unable to distinguish certain colours, though of the most vivid kind, they can discriminate any marked difference in *shades* or degrees of colour, and can see minute objects often with perfect distinctness. It occurs in persons whose point of vision is natural, as was the fact in most of the cases on record, and also in those who are far sighted, as Mr. Nicholl's fourth case and Mr. Colqhoun's second case; and in those who are near sighted, as in Mr. Dalton.

This defect appears often to be hereditary, or at least to prevail in certain families. Thus Harris had two brothers who were unable to distinguish colours, while two other brothers and sisters, as well as his parents, had not this defect.* Scott's father and one sister had the defect; his mother and another sister were free from it; but his mother's brother had it. The former sister had two sons, both labouring under the defect. Scott had two children who were able to distinguish colours.† In Nicholl's first case the mother and father and his four sisters were free from this defect, but his mother's father had it. This last had two brothers and one sister; one brother had the defect, the others not.‡ In Dr. Nicholl's second case several of the family were similarly affected.§ Mr. Dalton had a brother who laboured under the defect,‖ and he mentions that he knows of a family of six sons and one daughter, in which four of the sons were unable to distinguish colours.¶ Tucker's maternal grandfather had this defect; Wardrop states that several branches of a noble family in Great Britian have been remarkable for having it;** and we know of a family in this country similarly circumstanced.

We have often noticed that persons affected with cataract, who were unable to discern the *form* of objects, in consequence of the irregular refraction of some of the rays of light and interception of others, could distinguish generally, very accurately, *colours*. Connecting this fact with the inability to perceive colours while forms could be discerned, as observed in Mary Bishop and some other cases of amaurosis, it occurred to us that we might derive from this a means of diagnosis between the two diseases. Subsequent investigations have not confirmed this idea. The subject may, however, be worthy of a more extensive examination than we have bestowed on it.

Several *theories* have been proposed to explain this defect of vision. Mr. Dalton thinks it probable that the red light is in these cases absorbed by the vitreous humour, which he supposes may have a blue colour; but this is a mere conjecture, which is not confirmed by the most minute examination of the eye, and does not even explain all the phenomena.

Dr. Young thinks it more simple to suppose absence or paralysis of those fibres of the retina which are calculated to perceive red; but there is no evidence of there existing in the retina fibres suited to the perception of the different colours, and this also does not embrace all the degrees of the defect.

Sir David Brewster, after analysing certain cases, says "In all the preceding cases there is one general fact that red light and colours in which it forms an ingredient, are not distinguishable by those who possess the peculiarity in question." Hence he at one time concluded that the eye is in these cases insensible to colours at the one end of the spectrum, just as the ear of certain persons has been proved by Dr. Wollaston, to be insensible to sounds at one extremity of the scale of musical notes, while it is perfectly sensible to all other sounds.

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* Philosophical Transactions. 1777.

† Philosophical Transactions for 1778.

‡ Med. Chirurg. Trans., vol. vii., p. 472.

§ Med. Chirurg. Trans., vol. ix., p. 361.

‖ Mem. Lit. and Philos. Soc. Manchester, vol. v.

¶ Ibid.

** Essays on the Morbid Anatomy of the Human Eye, vol. ii., p. 199.

More recently he has offered the following explanation of the phenomena. "The eyes of such persons," he remarks, "are blind to *red* light; and when we abstract all the red rays from the spectrum constituted as already described,* there will be left two colours, *blue* and *yellow*, the only colours which are recognised by those who have this defect of vision. To such eyes, light is always seen in the red space; but this arises from the eye being sensible to the yellow and blue rays, which are mixed with the red light. Hence blue light will be seen in the place of the *violet*, and a greenish-*yellow* will appear in the orange and red spaces, or, which is the same thing, the spectrum will consist only of the *yellow* and *blue* spectra."

This theory embraces only one class of cases, and even in them it does not explain all the phenomena, as for instance, how it is that those who can perceive yellow and blue cannot distinguish those colours in a state of mixture; for of green they seem to have no perception.

Dr. W. Nicholl has proposed a theory† which is, however, so opposed to all the facts that it is unnecessary to occupy time in detailing it.

Mr. Wardrop thinks "it is not improbable that this defect of vision arises from a greater sensibility of the retina to the impressions of the blue and yellow—making rays, than to those of any of the others." "This may depend," he observes, "upon the refractive power of the humours, by which the rays of these two colours are more accurately united on the retina than rays of any other colour, and, consequently, the images formed there of objects reflecting these colours are more distinct than those formed of objects reflecting the other colours. When the colour of a body is compounded of several colours, the superior correctness of the image formed by the blue and yellow rays reflected from it, may cause the sensations which these colours excite to predominate over the sensations caused by the other colours, and thus may cause in the mind of the observer the perception of that compound colour to be different from the perception of the same colour to another person, whose eye forms images of external objects differently."‡

It is almost unnecessary to say that this is pure hypothesis, and is even contradicted by some careful investigations presently to be noticed.

Sir John W. F. Herschell attributes this state of vision to a defect in the sensorium, by which it is rendered incapable of appreciating exactly those differences between rays on which their colour depends. This profound philosopher observes, "We have examined with some attention a very eminent optician, whose eyes (or rather eye, having lost the sight of one by accident) have this peculiarity, and have satisfied ourselves, contrary to received opinions, that all the prismatic rays have the power of exciting and affecting them with the sensation of light, and producing distinct vision, so that the defect arises from no insensibility of the retina to rays of any particular refrangibility, nor to any colouring matter in the humours of the eye preventing certain rays from reaching the retina, (as has been ingeniously supposed,)but from a defect in the sensorium by which it is rendered incapable of appreciating exactly those differences between rays on which their colour depends."§

This is essentially the phrenological doctrine. According to the phrenologists the eye only receives impressions, the power of judging of them resides in the sensorium; and the inability to distinguish colours does not result from any defect or imperfection of the eye, but upon that particular portion of the brain which they have named the "*organ of colours*."‖

We trust that the preceding remarks will induce others to investigate this curious defect in vision under consideration. Opportunities, we believe, for it are of more frequent occurrence than is supposed, and if the opportunity be taken advantage of and the observations made accurately and with a proper method, a clue will no doubt be obtained to its explanation.

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* Optics, Am. ed., p. 69.

† Annals of Philosophy, Feb. 1822, p. 128.

‡ Essays on the Morbid Anatomy of the Human Eye, vol. ii., p. 200.

§ Encyclopodia Metropolitans, art.. Light, p. 434, § 507.

‖ Mary Bishop's case would seem to favour this theory, her affection having been the sequel to an attack of cerebral disease.

The prismatic spectrum, as it is always the same, and thus enables us to compare observations, should be made use of. The colours should be shown together and separately, and the individual's powers tested carefully. It is particularly desirable now to ascertain first what primitive colours the individual can distinguish, and which, if any, of the compound colours.—*Amer. Jour. Med. Surg.*

THE ANATOMICAL VARIETIES OF CONGENITAL CLUB-FOOT.

BY M. JULES GUERIN.

THE following analysis, which we obtain from the Lancet, comes in seasonably in confirmation of the practice detailed by Dr. Walter, of Pittsburgh, in the initial article of our Journal.—*Ed. Ecl. Journ.*

There are four anatomical varieties of congenital club-foot, viz., *pes equinus*, *varus*, *valgus*, and *talus*.

The *pes equinus* is characterised by a permanent flexion of the foot on the leg. In the most simple form we find nothing more than a mere contraction of the muscles of the calf, by which the heel is drawn upwards. But the *pes equinus* is rarely simple; it is generally complex, that is to say, connected with certain other deviations. Thus, M. Guérin has pointed out, amongst the general characteristic of *pes equinus*, the shortening and widening of the sole of the foot, &c. In the first degree of complex pes equinus there is, at first, nothing more than a slight shortening of the muscles which join the tendo-Achillis. Here the deformity is evidently due to muscular contraction. It could not depend on any position of the fœtus *in utero*, because the foot still conserves its normal relation to the leg. As the deformity, however, becomes more developed, the sole of the foot is more excavated, different other muscles of the foot partake of the contraction, and the toes are sometimes drawn even underneath the heel.

An inspection of the muscles of the leg and foot, in the different degree of *pes equinus*, further confirm the views of M. Guérin. In the first degree the calf is small and short, placed somewhat higher than in the normal state. The edges of the gastrocnemii and soleus muscles are felt, tense and resisting, like so many chords, showing that the muscle is undergoing a change to a fibrous state. When the deformity is greater, the calf is still higher, harder, and flatter, though all trace of muscle has not disappeared. Are not these, asks M. Guérin, the evident effects of a permanent and primitive muscular retraction?

Varus.—The essential character of *varus* is a turning-in of the foot, in such a manner that the sole has a tendency to become vertical. It presents three varieties. Simple *varus* is extremely rare; in 400 cases of club-foot, M. Guérin has seen only seven examples. This form, also, is but a fixation of a normal movement of the foot, and depends on retraction of the muscles which effected this movement. The muscles are, in the first place, the tibialis anticus and posticus; and, in the second place, the gastrocnemii (*jumeaux*) and flexors of the toes. M. Guerin shows that the torsion of the foot inwards depends on the above-mentioned muscles, by considering the disposition and direction of the articular surfaces, the points of insertion of the muscles, and, finally, their mode of action. But *varus* is, as has been remarked, seldom simple; it is more frequently combined with permanent adduction and a curvature of the foot inwards. The first of these effects is produced by the tibialis posticus, aided by the flexors of the toes, which have become adductors in consequence of the deviation of the foot. The curvature of the foot depends on the gliding of the scaphoid bone over the head of the astragalus, and on the rotation of the latter bone, in a vertical direction; these latter elements of deformity being aided by retraction of the flexor and adductor muscles of the great toe.

In *equinus varus*, the second variety of *varus*, the heel is elevated, at the same time that the anterior part of the foot is more or less turned inwards. In the third variety of *varus* the torsion of the foot predominates over the elevation of the heel; M. Guerin enters into a rigorous analysis of the movements of the foot, and demonstrates that these varieties are all the consequence of retraction of the muscles of the leg and foot.

In *valgus* the foot is twisted on its inner edge, the plantar surface looking outwards. The agency which effects this is twofold, viz., retrraction of the peronei and extensor communis muscles, and paralysis of their antagonists, the tibiales, flexors, &c.

In *talus* the heel is depressed, and the anterior portion of the foot elevated, This deformity, also, is shown to be the effect of a permanent state of muscular retraction in an extreme degree; the muscles of the calf are relaxed, while all those which extend the foot are in the highest state of contraction.

The reader will easily divine the practical conclusions to be drawn from the above remarks. The cure of the different species of deformity (if the theory of their cause be correct) is simply effected by destroying the muscular retraction on which they are shown to depend. The observations of M. Guerin are particularly valuable in this point of view. He indicates with precision the particular muscles which are concerned in the production of each species and variety of club-foot, and thus enables the scientific practitioner to attack at once the more immediate cause of the deformity. Experience fully confirms the inductions drawn by the author. For the *pes equinus* he divides the tendo-Achillis, and sometimes the flexor proprius pollicis pedis; for simple *varus*, the tendons of the tibiales; for *equinus varus*, the tendo-Achillis, and the tendon of the tibialis posticus; for *varus equinus*, the tendo-Achillis, tibiales, extensor proprius, and adductor of the great toe, and sometimes the peroneus longus; for *valgus*, the tibialis anticus, peroneus brevis, and extensor communis; finally, in other cases of a complex description, the plantar fascia and other muscles.

CASES ILLUSTRATING THE EFFICACY OF DIVIDING THE INTERNAL RECTUS MUSCLE, FOR THE CURE OF SQUINTING.

BY P. BENNET LUCAS, ESQ.

CASE I.—April 7, 1840.—Catherine Culbert, aged 60, has had strabismus from the time she was three years old. The right eye is turned deeply towards the inner canthus, so that the outer segment of the circumference of the cornea looks forward. There are two specks of long-standing on the cornea.

When the left eye is covered the turned-in one slightly alters its direction, and by an effort the patient can direct it outwards in a sufficient degree to bring into view the entire of the cornea, and a very small portion of the conjunctiva, between it and the inner canthus. She cannot, however, retain the eye longer in this position than a few seconds.

Notwithstanding the very unfavourable condition of the eye of this patient for an operation, the difficulties which offered themselves in reaching the muscle at fault for the purpose of its division, and after its division the question which naturally presented itself, whether an eye for fifty-seven years thus deformed would resume the normal condition it had enjoyed but for three years, I proceeded to the operation, assisted by Dr. Hingeston and Mr. Wardrop, jun. A bandage was placed over the sound eye, so as to exclude the light. The upper eyelid was secured with a speculum, and the lower was depressed with the fingers. By these means the globe of the eye was also sufficiently fixed. Desiring the patient to direct her eye as much outwards as possible, I grasped the small portion of conjunctiva at the inner canthus, which was brought into view, with the square forceps, and divided this membrane from below upwards by means of a small knife, to the extent of about five lines. A partial chemosis almost immediately took place, from the effusion of blood and tears beneath the lips of the incision, which gave them a swollen appearance, and which more or less interfered with the future steps of the operation. I next inserted a double hook into the sclerotic coat, and found so much difficulty in everting the globe of the eye in a sufficient degree to expose the insertion of the internal rectus muscle, that, at the suggestion of Dr. Hingeston, I bent a small, common probe (about four lines of the instrument) at an acute angle, and introducing it into the incision of the conjunctiva, I readily passed it underneath the muscle, and fitting it close between its insertion and the sclerotic coat, it was drawn with much ease towards the incision of the conjunctiva, and divided with a bent scissors. This manœuvre with the bent probe answered the purpose of bringing the muscle and globe of the eye so completely under my command that I determined, in the next case which presented itself, to adopt a similar proceeding.

The result of this case was unsatisfactory ; it is now the 23d of April, and no decided improvement has been effected in the strabismus. It is a case, however, which is highly instructive, and fraught with the most satisfactory inferences in regard to the safety of the operation, and the new method of performing it. The woman was aged 60, and had the deformity fifty-seven years ; under the most favourable circumstances she could but turn the eye slightly outwards, and it was therefore hardly to be expected that the operation would have been attended with the same happy effects which have followed the other cases in which I have operated.

This case proves the safety with which the operation can be performed under circumstances the most unfavourable ; the globe of the eye was not only turned deeply inwards, but from the emaciation of the orbital contents, in common with the other parts of the body, it was also very much sunken, which rendered the operation difficult, notwithstanding I readily reached the muscle with the bent probe. It will be interesting to follow this case, with the view of ascertaining if the muscles, which have now been fifty-seven years accustomed to particular actions, may not eventually bring the eye to its proper position, the inner rectus muscle having been divided.

To this date (April 23) the patient has not complained of a single bad symptom, the healing process having gone on most satisfactorily.

Case II.—April 21, 1840. Mr. Crossland, aged 21, was born with his eyes straight. At Montreal, when five years of age, he was watching the return of his father from business at a time when a large quantity of snow was on the ground, the glare of light from which he observed to be very offensive, and was instantly seized with strabismus convergens of the left eye. He was quite unconscious of any deformity having occurred, until his friends remarked it to him. He was subjected to various kinds of medical treatment, and wore goggles. The summer following his eye got straight ; but when the winter returned, it again became inverted, and has remained so to this date.

Present Appearance.—The eye is turned deeply into the inner canthus. When the right eye is covered the patient can turn the affected eye half-way outwards ; but when both eyes are exposed, it instantaneously resumes its abnormal condition.

Mr. C. has been subject to headaches, reads a great deal, and for the last two years has been living on vegetable diet, for the cure of a cutaneous affection.

In the presence, and with the assistance, of Dr. Carroll, Mr. Toogood Downing, Mr. Wardrop, jun., and Mr. H. Downing, I performed the following operation :—A bandage was applied to the sound eye, to exclude the light, and the patient was seated on a low-backed chair before the window, and his head reclined against Mr. Doering's chest, who also supported the upper eyelid, by means of the wire speculum. Mr. Wardrop, jun., depressed the lower lid. The patient, who possessed great moral strength, everted the turned-in eye to his utmost, and with the greatest facility I introduced a small, fine-pointed hook into the inner conjunctiva, about three lines distance from the cornea, and with a very fine, straight knife I divided this membrane from below upwards, to the extent of half an inch, leaving the hook still attached to the inner segment of the incision. I next separated the divided inner portion of the conjunctiva from the subjacent sclerotic coat by means of a blunt probe, and having introduced between the lips of the incision the bent probe, I parted it underneath the tendon of the internal rectus muscle. The hook was now withdrawn and the operation was suspended for a moment. I next raised the tendon by means of the bent probe towards the incision of the conjunctiva, so as completely to bring it into view, and with a curved scissors divided it. The eye immediately resumed its natural position. The hemorrhage did not amount to as much as two drops, and the operation was completed in a minute and a half.

Calomel, 2 grs.;
James's Powder, 3 grs. A saline draught in the morning.

22. The inner conjunctiva is slightly ecchymosed; the eye is perfectly straight. Mr. Crossland had a good night.

24. Ecchymosis of conjunctiva is disappearing. The state of the patient is most satisfactory.

26. The patient is in every respect going on well; he suffers no pain in the eye; the inner conjunctiva is still reddened, and a layer of lymph exists in the site of the incision; the redness evidently exists for the purpose of reparation, which is going on beautifully, as the patient was not aware of its existence until he saw it by means of a glass. He goes to business to-morrow.

Case III.—April 27.—William James Egan, aged 10, was born with his eyes perfectly straight. When he was two years of age he suffered from convulsions, and after a more severe one than usual the strabismus took place.

Present State.—His left eye is turned deeply inwards, with a slight degree of obliquity upwards; its sight is not so powerful as that of the right; there is a slight degree of opacity of the inner circumference of the cornea, and the organ is more sunken than its fellow. With much exertion the patient can evert the eye to the extent of about four lines.

With the assistance of Mr. Downing, Mr. Bailly. Mr. Earles, and Mr. Snow, I performed this operation as follows:—The eye-lids were held apart simply by means of the fingers; I seized the inner conjunctiva with a small sharp hook, and divided this membrane from below upwards, with a fine narrow-bladed knife. At the instant of doing this the eye forcibly turned more inwards, which retarded the operation a few moments: keeping the hook still fixed in the inner segment of the divided conjunctiva, I allowed the lids to cover the globe, and a few drops of blood were wiped away by means of a sponge and cold water. Exposing the eye again by simply elevating the upper, and depressing the inner lids with the fingers of two assistants, I readily exposed the incision of the conjunctiva, and having separated the connecting reticular tissue by a blunt probe, as in the other cases, I introduced the blunt hook, and with much facility passed it from below upwards, beneath the inner rectus muscle, and drawing it forwards, I divided its tendon with a curved scissors.

The tendon of the muscle was unusually thick and strong, far different from the appearance which it presented in the other cases; it *grated* beneath the blades of the scissors upon dividing it, which, being accomplished, the eye became instantaneously straight.

The whole operation only occupied two minutes.

In this case the speculum was dispensed with, and the only instruments used were a hook, a knife, a probe, and a scissors.

After the operation a cold bread-and-water poultice was applied to the eye, a powder, consisting of James's powder and calomel, was given, and the boy was put to bed.

This little patient evinced great strength. I explained to him beforehand the object of the operation, and said he could assist us by everting his eye as much as possible, and which he did at the time it was most needed.

Remarks.—Were the operation of diving the muscles of the human eye for the cure of strabismus attended with danger to the organ of vision, with consequences of even a much less serious nature, the propriety of its performance mightjustly be regarded as questionable. But when it is considered that no bad consequences have followed this interesting operation,—that the patient suffers but little during its performance,—and that, in the cases to which it is applicable, the most gratifying success has attended it; its extensive application to the removal of strabismus cannot be too forcibly insisted upon.

As will be observed, on the perusal of the foregoing cases, and of those which have appeared in The Lancet of April 18th, the operation for the cure of strabismus which I have now successfully employed in five cases, differs in many, and I would say essential, particulars from that adopted by Professor Dieffenbach—indeed, when I first attentively considered the detail of the three cases as reported in the "British and Foreign Medical Review," I was struck with the number of hooks which were employed, and the necessity arising therefrom, for many assistants, who, in all operations, but especially in operations upon the eye, too often interfere with each other, and with the operator.

In Professor Dieffenbach's operation, no less than four hooks are employed, and one of these a double one; two for the purpose of keeping the eyelids apart, a third is passed into the conjunctiva, and the fourth, the double one, is fixed into the sclerotica. In none of the cases, with the exception of Catherine Cuthbert's, did I use more than one hook; and in the case of the child, Mary Anne Daly, I used none, having divided the conjunctiva with a knife and forceps. This latter instrument I have since found is not, for many reasons, to be depended upon as much as the hook; it gives more uneasiness to the patient, and is apt to lose its hold of the conjunctiva, which the hook never does until it is intentionally removed.

In deciding upon the best method of performing this operation, many circumstances must be taken into account in regard to the age of the patient; his moral courage; any cause which may disturb the relation of the orbit and its contents, so as to produce a too prominent eye or a too sunken one, as well as the degree of intensity of the strabismus.

In children it requires the greatest exertion to control their struggles. In the child Daly it was as much as two persons could do to steady her trunk and legs, the movements of which retarded the operation materially. On the contrary, in the case of Mr. Crossland, the great firmness he displayed, and the assistance he afforded me by everting his eye to the utmost, at the time I was passing the hook beneath the inner rectus muscle, rendered the operation almost bloodless, and enabled me to complete it in a minute and a half.

I have omitted to mention that I was indebted to the kindness of Mr. F. Kiernan, for the opportunity of operating on the boy Egan.

I have this moment seen the child, Mary Anne Daily; her eyes are perfectly straight, and a slight cicatrix is visible in the site of the operation.

London, April 23, 1840.

It gives us pleasure to be able to say that Dr. Hays, one of the Surgeons of Wills' Hospital, and Dr. Mütter, have performed the operation for strabismus, by cutting the internal rectus muscle.—*Ed. Eclec. Jour.*

IDENTITY OF PUERPERAL PERITONITIS WITH EPIDEMIC ERYSIPELAS.

BY R. HUTCHINSON, M.D., M.R.C.S.,
Physician to the General Hospital, Nottingham.*

The object of the communication was to state some circumstances tending to prove the frequent identity of puerperal peritonitis with epidemic erysipelas, and which occurred during a recent epidemic at Nottingham.

After excluding phlebitis and metritis, which the author considered to be by some writers comprised under the name of puerperal fever, and of which the imperfect discrimination, he thinks, may have introduced much of the obscurity and contradiction in the accounts and opinions of medical authors in reference to puerperal fever, the conditions of the weather preceding the epidemic are stated and the fact of the coincident prevalence of erysipelas and puerperal fever in the same neighbourhood and at the same time, is then stated. A case is then related at length, which the author judged to be one of puerperal peritonitis; it terminated fatally, but no anatomical inspection of the body was made.

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* Communicated by Sir James Clark. Royal Medical and Chirurgical Society. Tuesday, April 14, 1840. Sir B. C. Brodie, Bart., President.

Another case follows, also fatal, in which the peritonæal inflammation, with the effusions usually described in puerperal peritonitis, were ascertained on dissection.

A third case shows the occurrence in the same individual of peritoneal inflammation after delivery, and of erysipelas beginning in the left labium pudendi, and extending over large surfaces of the body, with vesications and sloughing of cellular substances. The treatment is detailed, under which the patient ultimately recovered.

These cases occurred consecutively, without the intervention of any other attendance on a case of labour, in the practice of the same accoucheur, and were followed by two other distinct cases of puerperal peritonitis, one of which, attended by the author of the paper, in the company of the same practitioner, exhibited repeated alternations of peritonitis and erysipelas on the surface.

The author then states that two practitioners, residing ten miles apart, met half way from the residence of each in attendance upon a patient suffering under extensive erysipelas of the legs, with sloughing, which required incision to be made, in which both were engaged in handing the parts affected. One of them the same evening attended a patient in labour, previously healthy, who died of puerperal peritonitis. The author draws from these observations a serious caution to practitioners, of the danger of communicating infection. He mentions, among other writers who entertained views similar to his own respecting the identity of puerperal peritonitis and erysipelas, Dr. Ingleby, of Birmingham, who, in the "Edinburgh Medical and Surgical Journal," 1838, speaks confidently of his conviction on the subject.

Dr. King, in illustration of the contagious nature of puerperal fever, stated, that some years since a practitioner, residing in Woolwich, lost sixteen patients from this disease, in the same year. He was compelled to give up the practice of midwifery for one or two years, his cases being divided among neighbouring practitioners. No case of puerperal fever occurred afterwards; neither had any of the neighbouring surgeons any cases of the disease in their own practice. During a period of practice extending over many years, he (Dr. King) had had not a single case of puerperal peritonitis, and this, he thought, was attributable to the facts of his never using ergot of rye, and his employment of calomel and opium in allaying any irritation which might occur after parturition.

Dr. Clendinning remarked, that the opinions expressed by the author were opposed to those generally entertained by the profession. He had had opportunities of treating both erysipelas and puerperal peritonitis, and of examining the bodies of persons cut off by them after death. The appearances presented in one of the cases detailed, were such as were usually observed in fatal cases of puerperal peritonitis, and were not those found in erysipelas. From his own experience he should consider the diseases under consideration to be quite different.

Dr. Merriman observed, that the idea of an identity between puerperal peritonitis and epidemic erysipelas, was by no means new; he had heard it expressed when he was a student; it seemed to have its origin in the fact of erysipelas and puerperal peritonitis being occasionally prevalent at the same time. He was rather surprised that the author of the paper should not, in support of the views he had advanced, have adverted to a circumstance sufficiently well known to practical men, viz., the great number of cases of erysipelas infantile which occurred after the death of the mother by puerperal fever. He had seen many such cases in which the mother died of puerperal fever, and in a few days after her infant was seized with fatal erysipelas. He recollected one case particularly which illustrated the point he had just alluded to, as well as the contagious nature of puerperal fever. He (Dr. Merriman) was requested to be present at the examination of a woman who had died of puerperal fever. He took care not to touch the body. This occurred at two o'clock in the day. At nine the same evening he was called to a labour, the woman was so near being delivered when he arrived, that he had scarcely anything to do; the next morning she had severe rigors, and in forty-eight hours was a corpse; her infant was seized with erysipelas, which proved fatal in two days.

Mr. Gregory Smith would mention a fact which bore somewhat upon the question under discussion. The body of a woman, who had perished from puerperal peritonitis, was brought to the dissecting-rooms, in Little Windmill-street. Having had a desire to pass his hand from the uterus into the vagina in a case of the kind, he did so on this occasion. He was instantly seized with a painful sensation along the back of the hand and up the arm, to the point where it ceased to come in contact with the body. He bathed his hand in warm water for some time, but suffered considerably from pricking and pain in the hand and arm. In the evening he felt feverish and unwell, and was awoke in the night by pain in the hand and arm, which he found, in the morning, to be covered with distinct pustules. These continued for several days. He tried to inoculate one or two students with the fluid taken from these pustules, but the only result was an irritative wound, which healed in a day or two.

Sir B. Brodie observed, that it was well known that the inoculation of lymph or pus, from the peritonæum of a puerperal patient, was often attended with dangerous and even fatal symptoms. With regard to the contagious nature of puerperal peritonitis, an anecdote was told of the late Dr. John Clarke, to the effect, that on this disease appearing among the patients, he was induced to destroy his entire wardrobe, and no case of the kind occurred to him afterwards. There was a class of cases bearing somewhat upon the question mooted by the author of the paper, and of which he (Sir Benjamin) had seen several instances. About seventeen or eighteen years ago, he operated upon a patient with a fistula in ano. Soon afterwards the wound was surrounded with erysipelatous inflammation, which, in a day or two, had involved the entire of the buttocks, and then suddenly disappeared; the patient was now seized with pain in the abdomen, which was tender and swollen; there was much constitutional disturbance; in fact, all the symptoms of peritonitis were present; he died in eight days. After death there was found to be unusual vascularity of the mucous membrane of the intestines, spreading upwards from the rectum, and the peritonæum exhibited the usual signs of acute inflammation. He had seen four or five cases in which, after operation for fistula in ano, there was a blush of erysipelas; this disappeared suddenly, and the inflammatory symptoms supervened.

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MEDICAL ASSOCIATION OF IRELAND.

We have received, as if to fix our attention fully on the subject, no less than three separate copies of the Dublin Medical Press for June 3d, of the present year, with a Supplement. The number is almost entirely filled with an account of the resolutions, speeches, and other doings of the "Medical Association of Ireland," at its first anniversary meeting, held in Dublin, on the 27th May. An opening address was made by the President, Richard Carmichael, Esq. The spirit of reform is abroad and active in all parts of the United Kingdom; manifested in medical associations, whose object is to elevate the standard of medical character and attainments, by requiring a better system of education, or rather stronger and more valid tests of preparedness for medical and surgical practice than at present are to be found. Much of what is objected to on the other side by the medical reformers exists, and requires removal, here; and hence a notice of their proceedings,—their trials, difficulties, and probably ultimate success, will have more than a merely passing interest to the profession on this side of the Atlantic. Mr. Carmichael states, that the objects of his associates assembling, is for them to agree upon the principles upon which reform ought to be based, and to consider the best means of afterwards accomplishing our object. "Already have upwards of fifty petitions from this, as well as various other associations of our brethren in England and Scotland, been presented to Parliament, which, proceeding from such great masses of enlightened and well educated men, neither the legislature nor the government *can* overlook. The voice of such men *must* be heard and listened to with attention. The people have not as yet come forward to petition Parliament on a subject, in which *their* interests are truly more deeply concerned than ours; but ere long, they will be awakened from this apathy to a just sense of the advantage of having none *but* well educated practitioners, to whom they may, with confidence, entrust the care of their health and lives. Men whose competence for this important duty has been ascertained, and tested by the most trying and searching examinations. That men incompetent to the due performance of this duty, who call themselves physicians and surgeons, are everywhere to be met with, is obvious to every one, and is beyond the necessity of proof. But it could not be otherwise, since there are eighteen chartered Corporations or Colleges in the united empire, empowered to grant licenses to practice; which instead of competing with each other, to supply for the public service, the most highly qualified and well informed practitioners, on the contrary, exert a miserable rivalship, only in the accumulation of money. For, in proportion to the number of candidates upon whom any College confers its diploma, so much the greater number of fees it obtains; and, consequently, the public is inundated with incompetent and half educated men. This statement may, by many, be esteemed exaggerated or untrue; but, in its support, I shall advance a fact, which is well known to numbers around me. The Irish College of Surgeons, maintained, for many years, a high character for the rigour of its examinations, which caused its diploma to be everywhere respected. But of late years it has been induced to swerve from the high tone it had adopted, and lower its examination to the level of other Colleges, otherwise it would have scarcely a candidate for its diploma—*Ab uno disce omnes* (hear, hear). We may, therefore, infer what the result must be, when eighteen licensing bodies thus contend, as in a Dutch auction, to sell their honours to the lowest bidders in point of qualification, which sufficiently accounts for the crowded and wretched state of the medical profession, and the number of ill-informed and half-educated practitioners who are every where to be met with. This state of the profession calls loudly for legislative interference, to prevent a continuance of the evils which must in consequence be inflicted on society (hear, hear)."

How far the evils thus deplored by Mr. Carmichael prevail in the United States, and what is the urgency for relief and reform here, must be pretty obvious to every intelligent physician. In Great Britain and Ireland the profession looks for a change through the decrees of the national legislature—the Imperial Parliament. In this country we cannot make a similar appeal to Congress with any effect, each State having the power, and deeming itself competent, to take cognizance of, and regulate all matters of education within its bounds. To the legislature of each State, therefore, must the physicians who reside in its bounds, direct their appeal for reform. They need not wait the action of those who reside in the great cities, who are often trammeled by a spirit of corporation, or coterie, or a love of ease, and an aversion to encounter the occasional frown of those with whom they have frequent and friendly intercourse. It is high time for all the members of the profession in the United States to be up and doing, if they would not see themselves degraded in public estimation to the mere level of quacks; and, what is worse, feel that their average attainments are not of a much higher order than those of the latter. Reform, to be useful, ought to be searching and general, and in order to be so, long time and much labour must be consumed. We ought to ascertain fully our real position, our deficiencies, and the means of obviating them; and of establishing at the same time a better system, which should be the fair expression of the educational capabilities of our American teachers, and the real wants of American students, in reference to the requirements, which may, and ought to be, reasonably made of them by the people whose health they profess to take charge of, and whose diseases to cure. In the progress of preliminary investigation our attention ought to be fixed on our own condition ; and even in the ameliorations and reforms which the former may show to be necessary, although we may take hints from foreign institutions and laws, we cannot usefully adopt any of these as our models and standards. No hasty application of a partial revelation of existing abuses can be made to the disparagement of this or that existing medical school, or of the course pursued by a few medical teachers. We must be prepared with adequate knowledge, and in the right feeling; which knowledge, laboriously acquired, goes to make an entire change in the system, not merely in one city or state, but in all parts of the United States. Let the reform emanate from, and be sustained by the great body of the profession through the country, and not left to the caprices and selfish calculations of a few, and great will be the good. There are, doubtless, many medical societies now in existence, which might at once be made medical associations for reform : but the composition of many others is such as to prevent salutary action, and in such case new combinations are required for this express purpose. It is not to be expected, for example, that professors in existing medical colleges should take a very active part in furthering measures to curtail their number and abridge their privileges. No person ought to blame them if they are lukewarm, or even if, on occasions, they interpose their adverse opinions to reform. It is time enough to require them to act when they see the properly matured plans of the great body of the profession placed before them.

Mr. Carmichael proposes, as part of a plan of reform, that " there should be but three licensing bodies—one in each capital of the empire—(London, Edinburgh, and Dublin,)--which should, by frequent communications, preserve uniformity of education and equality of examination. By this arrangement the standard of qualification may be brought to the highest pitch compatible with the wants and interest of the public ; and it is only in this way that the ranks of a profession, at present crowded to excess, and sadly interfering with each other, can, *even in prospectu*, be legitimately thinned (hear, hear)."

In the United States it has always been found convenient for a doctor to practice both medicine and surgery ; and, therefore, we do not require here the change which Mr. Carmichael and his fellow reformers call for, viz : that " the license obtained in the manner indicated above should permit the possessor of it to practise either physic or surgery, or both, in every part of the empire. In large cities and communities, individuals may find it their interest to restrict their practice to one or other of these divisions of the healing art. In small towns, on the contrary, the same individuals will be called upon to practice both branches for which, under the proposed reform, he would be amply qualified. In villages and remote districts it may be necessary for the interests of the people that the same individual should also be permitted to practise pharmacy." In these particulars we are in advance of our brethren on the other side, in our practically carrying out those which they only suggest as expedient hereafter to be done. Our belief in this country of the propriety of the following recommendation of Mr. Carmichael, has been manifested also by appropriate regulations in some of our chief cities, particularly in Philadelphia, in which a College of Pharmacy has been, for some years past, in practical and efficient operation. Mr. C. says:

"The interests of society require that the practice of medicine and pharmacy should be kept as distinct as possible; and, therefore, it is proposed to establish, in addition to the colleges of medicine, three great colleges of pharmacy, one in each metropolis—and that no person shall be entitled to *vend* or *charge for* medicine who does not receive his diploma from one of these colleges (hear, hear)."

Drs. Maunsell, Jacob, O'Beirne, Porter, Williams, and others of note, some of them professors in existing schools, are members of the Irish Medical Association. The importance of the subject will induce us to revert to it ere long.

THE ANATOMY OF SUICIDE: By FORBES WINSLOW, Member of the Royal College of Surgeons, London; Author of Physic and Physicians. London. 1840. pp. 339, 8vo.

THE title of this work was probably suggested by that of the "*Anatomy of Drunkenness*," by the late Dr. McNish, as this again was derived from the ever celebrated "*Anatomy of Melancholy*,' by the melancholy Burton, himself a case in the Clinics of Suicide. The present work has more substance, and evinces more reading and reflection than "Physic and Physicians," which, before we had made much progress in its perusal, would, we hoped, be appropriate to the "Library:" but we found it of too light a texture for this purpose. There is in the volume before us an abundance of materials for philosophical inductions and ethical reasonings, but which the author does not seem to have wrought out to the requisite extent and fulness. His application of the subject to medical jurisprudence strikes us as meagre and imperfect; in his often substituting assertion for proof, and opinion for close argument. Evidently he has not accustomed himself to this branch of medical study; at least he has hardly gone beyond its mere outlines or anecdotal portions. The work seems to be intended for perusal by the general reader, as well as, if not rather than, the medical; and, so far, it is not calculated, we conceive, to answer a good purpose. So strong is the propensity in the human mind to dwell on and imitate follies and atrocities, which excite at first an emotion of disgust if not of horror, that a carefully made record of these things goes much farther to familiarize us to them, than to prompt to shun and detest them. There is, we believe, scarcely a narrative of suicide, particularly if it be of an unusual fashion, which does not give strong probability of some one who reads or hears it being induced to commit a similar act. We repeat, therefore, the expression of our fears, that an attempt to popularize these narratives, will also engender a repetition of the deeds which they record. Hence, although we are not of the number of those who believe in the efficacy of a studied painting of every history of folly and vice with a moral; yet in the cure of suicide we deem it to be the clear duty of every person, whilst he is yet in the possession of his senses, to explain the causes of a man's making away with himself—to be either insanity, or an excessive childlike or mere animal impatience, and more than brutish stupidity; by the first of which, at the very best, from his own showing, he throws a mantle over his face, and determinately blinds himself because he cannot pursue the path he likes, or has for a time wandered from it. A person who can be supposed to have been in his senses when he commits so senseless an act as suicide, leaves a body which can be regarded with no more respect than that of a dead dog. He has lowered himself beneath the standard of the living animal by his last act, and ought not to expect that the lodging of so poor, and craven, and stupid a spirit should be treated better than that of the quadruped. This may sound harsh and grating to some sensitive minds compassionate of other's follies as well as of other's suffering; but a little reflection will suffice to convince even them that our view is the most humane, besides being the truest, if measured by its practical application as a discouragement against the sin of suicide. Even if we suppose, which indeed we can hardly doubt, that generally the act is done in a moment of insanity,—this very morbid frame of mind itself has been sometimes created, often exasperated by false philosophy—the horrible dogma, that a man has a right to take away his own life, rather than by living to remain a burthen to himself and to his fellow men. The philosophy would be quite as sound, and sustained by as plausible arguments, which went to justify a man in murdering another person, because, for example, the latter may have been a criminal in the eye of the law; or a drone, and worthless in the eye of the political economist; or a cipher, a bare entity in the opinion of a man of genius.

Mr. Winslow examines the subject of suicide in nearly all its external bearings, by giving the history of opinions as well as of practice in regard to it among both ancients and moderns—philosophers so called, and fools without dispute. Thus, he begins with a notice of the *Suicides of the Ancients, and of the ancient laws and opinions on the subject of suicide;* then he speaks of writers in its defence. He properly considers afterwards *suicide a crime against God and man, and that it is not an act of courage.*

Stress, even in modern times, has been laid on the example of suicide set by the second Cato, who destroyed himself rather than submit to the clemency of Cæsar. But, so far from this act being regarded as a proof of magnanimity, it ought rather, as the author very properly remarks, to be stigmatised as the effect of pride and timidity. It was no longer the noble Roman, intent on his country's welfare, and willing to sacrifice present show of dignity for her ultimate good; but a proud, self-willed, and disappointed old man, who in a moment of spleen could thus desert Rome in her time of greatest need. With a little more prudence, and little less intolerance of another's temporary ascendancy, and probably, also, less private pique against the victor at Pharsalia, he ought have lived to see the dead rather than the triumphant Cæsar; and have become the centre and hope of the true friends of liberty, by his strengthening the party of Brutus and Cassius, and making it successful in restoring, for a while at least, free institutions to his country.

> "It appears that the Roman laws respecting suicide were of a fiscal nature. They viewed the act not as a crime abstractedly, but considered how far the circumstance affected the state or treasury. In some portion of the Roman empire the magistrate had the power of granting or refusing permission to commit suicide. If the decision was given against the applicant, and he persisted in sacrificing his life, disgrace and ignominy were heaped upon his body, and it was buried in the most humiliating manner."

So little can short-sighted man foresee his future fortunes, that even in the period of the greatest depression, events are in preparation which will give an entirely new colouring to his life, and raise him from despair to hope and joy. One among many examples of this truth is given in the reply of Napoleon to some persons who thought that he ought, after his downfall, to have played the Roman, and put an end to his life: "If Marius had slain himself in the marshes of Minturnæ, he never would have stood the seventh timo for consul." So, also, to give an illustration in the person of the French emperor himself, we might say: "If Napoleon had slain himself after his abdication at Fontainbleau, or on his way to exile in Elba, he never would have again traversed France, and shown to all Europe the intense enthusiasm of the people in his favour." And even after the disastrous day of Waterloo, had he, like Otho, destroyed himself, he would have been prevented from dictating those memoirs commemorative of his military career, and of his legislative and judicial skill which he prepared at St. Helena, and which will make his name a wonder long after it has ceased to be a terror among the nations of the earth. His suicide would have put the seal to the condemnatory declarations of his enemies:—his subsequent life has given him the stamp of truer greatness than was derived from his victories and conquests.

It is correctly remarked by Mr. Winslow, that "the alliance between suicide and the murder of others is a closer one than is generally supposed. How many instances are recorded in which suicide and homicide have been conjoined. He who will not scruple to take away his own life, will not require much reasoning to impel him to sacrifice another's." Numerous are the proofs of this last assertion furnished in the public journals of Europe within the last few years.

Touching *the influence of certain mental states in inducing the disposition to suicide*, we learn, on the authority of Falret, of 6782 cases which occurred between 1794 and 1823 (in Paris), 254 were from disappointed love, and of this number 157 were women; 92 were from jealousy; 125 from being calumniated; 49 from a desire, without the means of vindicating their character; 112 from disappointed ambition; 322 from reverses of fortune: 16 from wounded vanity; 155 from gambling; 288 from crime and remorse; 723 from domestic distress; 905 from poverty; 16 from fanaticism. In a period of sixty years, or from 1770 to 1830, there were 7290 suicides in London—of which 4337 were men, and 2853 women. Poverty is the chief cause, giving no less than 1416, of which 905 were men, and 511 women. Domestic grief figures in the proportion of 728 men, and 524 women. Reverse of fortune 322 men, and 283 women. Drunkenness and misconduct 287, and 208 respectively. Gambling 155 and 141. Grief from love 97 and 157. But then from causes unknown there were 1381 men, and 377 women.

Among the mental causes of suicide are enumerated remorse, unrequited affection, jealousy, mortified pride, despair. A *blind impulse* is mentioned by the author among the causes of this crime. We must suppose that in a vast majority of instances of suicide, although the passions unrestrained are the predisposing causes which unsettle the mind, yet that this blind and insane impulse is the immediate one. The following will represent a great number of cases, and will serve to point out to both the intender of suicide and his physician the means of prevention. Moral exhortations and religious appeals have no influence during this temporary delusion, the result of morbid cerebral excitement, which is either primary, and the excessive operation of the mental faculties; or secondary, and the transmitted irritation from disorder of the digestive and chylopoietic viscera in general. After the paroxysm is over, then will attempts to justify the better principles of the individual, by moral and religious precepts, be made to a good purpose. But we have withheld the case in illustration. It is as follows: "A gentleman, a merchant of the city of London, had been exposed to great mental perturbation; his nervous system had received a severe shock. He suffered extremely from a dread of going mad. As he was walking home one afternoon, he heard a voice say, "Kill thyself," "Commit suicide;" and from that moment he could not banish the idea from his mind. Two or three times he was on the eve of obeying the mandate of this internal voice; but he frequently possessed sufficient resolution to resist the temptation. In this state of mind he consulted a physician, who ordered him to be cupped in the neighbourhood of the head. His bowels were attended to, and he was recommended to visit some friends in the north of England, and to banish from his mind all ideas connected with business. He followed the advice of his judicious physician, and in a short time he completely recovered."

"A timely-administered purge has been known to dispel the desire of self-destruction. Esquirol knew a man who was decidedly insane whenever he allowed his bowels to be in an inactive condition.

"A patient of Falret had well marked suicidal delirium. So urgent were the symptoms, that he was placed under restraint and carefully watched. Active cathartics were administered, and Falret states that the largest tape-worm he ever saw was evacuated. The idea of suicide soon vanished, and the man was restored in perfect health to his friends and family.

"Foderé examined the bodies of three persons in one family, who fell by their own hands, and in the three cases considerable disease was discovered in the intestinal canal, which had been irritating the brain, and disturbing its manifestations. In the instances just referred to, the indication of physical disease of the *primæ viæ* were but trifling during life.

"Disease of the stomach and liver frequently incite to suicide; hepatic affections notoriously disturb the equilibrium of the mind. Many a case, exhibiting an inclination to suicide, has been cured by a few doses of blue pill. The physician should direct his attention to the condition of the uterine function, and the state of the skin. During the puerperal state, a tendency to suicide is often manifested.

"A lady, shortly after her accouchement, expressed, with great determination, her intention to kill herself. Her bowels had not been properly attended to, and a brisk cathartic was given. This entirely removed the suicidal disposition.

"Any irregularity in the action of the uterine organ may give rise to the same inclination. Under such circumstances emmenagogues will do much good.

"German writers dwell much upon the connexion between suicide and derangement of the cutaneous secretion. That this function should also be attended to there cannot be a doubt, although we cannot call to mind any cases of suicide which could be directly traced to suppressed perspiration."

We are led naturally from a mention of the internal or corporeal causes of suicidal mania, to indicate a part of the physical treatment, which consists in altering the condition of the organs; and, in doing so, we find ourselves copying from the tenth chapter of Mr. Winslow, having passed over some chapters intermediate between this and the one on the influence of certain mental states in inducing the disposition to suicide. Before we notice these, we must repeat an anecdote related of an Englishman and Voltaire, which is in point, to show how the mind is influenced in its tone and temper by the operation of physical agents, both external and internal.

An Englishman and Voltaire concluded a discourse one evening on the depravity of mankind, and the little motive for remaining on this earth, subject, as they were, to other's tyranny and injustice, and the various inflictions of disease—by a joint resolution to commit suicide on the following morning. The Englishman, firm to his resolution, rose, and expected Voltaire to perform his promise, to whom the genius replied, "*Ah! monsieur, pardonnez moi, j'ai bien dormi, mon lavement a bien operé, et le soleil est tout-à-fait clair aujourd' hui.*"—Ah! sir, excuse me, I have had a good night's sleep; my clyster has operated well, and the sun shines brightly to-day.

The fifth chapter is on *Imitative, or Epidemic Suicide*, and contains a number of examples of the tendency of the human mind to imitate various atrocities, including suicide, after these had been witnessed or their performance narrated by others.

"Gall informs us of a man, who in reading in the newspapers the particulars of a case of murder, perpetrated under circumstances of peculiar atrocity, was instantly seized with a desire to murder his servant, and would have done so, had he not given his intended victim timely warning to escape.

"Some years ago, a man hung himself on the threshold of one of the doors of the corridor, at the *Hotel des Invalids.* No suicide had occurred in the establishment for ten years previously; but in the succeeding fortnight, five invalids hung themselves on the cross-bar, and the governor was obliged to shut up the passage."

Sydenham informs us that at Mansfield, in a particular year in the month of June, suicide prevailed to an alarming degree, from a cause wholly unaccountable. The same thing happened at Rouen, in 1806, at Stuttgard, in the Valais, in the year 1813. One of the most remarkable epidemics of the kind was that which prevailed at Versailles, in the year 1793. The number of suicides within the year was 1300—a number out of all proportion to the population of the town, which at that time probably did not exceed fifty thousand inhabitants. At present it is as low as thirty thousand.

Most readers of history have heard of the epidemic at Miletus, which displayed itself by the ladies of the city destroying themselves by hanging, in the absence of their husbands and lovers, and of a similar mania at Athens, but without, we believe, the same plausible excuse. Writers are not agreed in respect to which of these two cities, the cure and prevention were found, by exposing naked, in a public place, the bodies of the last suicides.

The title of the following chapter, Suicide from Fascination, is not very clear. In it the author introduces accounts of several persons, who in their extreme curiosity to know the sensations of those who suffered death by hanging, drowning, &c., subjected themselves to trials, by suspension, and by immersion in water, which, but for the fortunate and sometimes accidental intervention of others would have proved fatal. As more particularly illustrative of a kind of fascination causing suicide, Mr. Winslow instances the confessions of a desire to jump off from an eminence or a precipice, and still more, and worse, actual self-destruction by this means. "Persons who are subject to feelings of this character, should be advised to avoid ascending elevated places."

Of the enthusiasm and irritability, which, if encouraged, would lead to suicide, is the heading of the seventh chapter of this work. There are some silly parents, and equally silly friends, whose chief endeavour would seem to be to nurture into insane exhibition this morbid irritability in place of soothing it, and directing the intellect and feelings into safe channels, by holding out inducements for regularly daily and common-place occupation.

The science of statistics, or the application of numbers to the verification of medical opinions, will correct many a popular notion and scientific dogma. Among those is the assertion that the changeable, and particularly the foggy climate of England, is favourable to suicide. In the chapter on the *Physical Causes of Suicide*, Mr. Winslow shows that in Holland, the climate of which is much more gloomy than that of England, there are fewer suicides than in the latter country, whilst in France, more favourably circumstanced on the score of a friendly sky, there are more instances of this catastrophe. The average number of suicides in London (or England?) shows the months of April and June to have the preference; and November to exhibit the least. The proportion of suicides in November is to those in April, as 3 to 8⅘. At Paris the larger number of suicides occur in spring and summer. "When the thermometer of Fahrenheit ranges from 80° to 90° suicide is most prevalent." On the contested point, of which people, the English or the French, is most addicted to suicide, the author says: "It has clearly been exhibited that where there is one suicide in London, there are twelve in Paris." We should like to see the data on which this assertion is made. The comparisons made in the work before us are of different periods in the two capitals: "Out of 120,000 persons who insured their lives in the London Equitable Insurance Company, the number of suicides in twenty years was only fifteen; so much for the English being, *par excellence*, disposed to suicide."

On the subject of ætiology, the following paragraph is worthy of especial note, not on account of its novelty, but as a text for continual and much more vigilant, and open, and manly dissuasion from indulgences in the bottle, than many, shall we say most, physicians are inclined to attempt.

"It has been already established by statistical evidence, that in a very large proportion of cases of insanity, admitted into the asylums and hospitals devoted to the reception of this unhappy class of patients, the mental impairment can clearly be traced to habits of intemperance." The inhabitants of the wine countries of Europe are not exempt from the vice which causes, nor the penalty paid for, insanity thus brought on.

Of the disposition to suicide induced by indigestion and hypochondriasis, we have too many melancholy examples; among the most interesting, perhaps, of which is that of the poet Cowper, who was at one time unquestionably insane, and who, in a fit of insanity, attempted his own life. The hereditary predisposition to suicide would seem to be a well established fact: nor is there anything in this to surprise. Suicidal propensity is a variety of monomania; and, as such, may, like other varieties of the disease, be transmitted from parents to offspring.

The *moral treatment of suicidal mania* would almost suggest itself to a physician of cultivated mind and correct taste, even without the aid of clinical experience. It should consist in regular occupation of the mind of the sufferer, short of actual fatigue; an engagement of his feelings in an observation of the beauties of nature; and cultivation of taste for the arts and letters. Determined volition, early enlisted, will go far towards dispelling gloomy thoughts, and substituting pleasanter ones in their stead. If change of scene be thought, as it is, desirable, the patient should be encouraged to travel; at any rate to leave his own home, and thus break up the morbid associations by which his mind has been enchained. Music has often exerted a salutary influence in dispelling the melancholy which leads to suicide, as well as in relieving some other varieties of insanity. In fine, if we would produce any beneficial change in the mind of the patient, it must be by action, and not so much by mere appeals to, as by continuing to occupy and to enlist his feelings and faculties generally in some regular and yet pleasing circle. Mere preachments about the regulation of the passions will be as nought unless we can show him how to repress inordinate and extravagant emotions, by enabling him to substitute allowable and healthy indulgence in the affections.

But important as we may deem the moral treatment, it is only auxiliary to the physical treatment, the chief outlines of which have been already traced. In the inception of the disease, and during what may be called its paroxysmal period, when the patient is eagerly intent on self-destruction, we may be pretty sure that the brain is in a morbidly excited state, and we ought to shape our measures so as to abate it. With this view we should act directly on it by the detraction of blood, either by v.s. or by cups and leeches, or by cold applied to the head, and warmth to the lower extremities. If the symptoms indicate derangement of the digestive canal and apparatus generally, this is to be corrected, and by such means the brain will often be entirely relieved. But after a prolongation of the disease or repeated returns of the paroxysm, or even primarily in certain constitutions debilitated by various excesses, the brain is in a state of high nervous, but not inflammatory excitement, and requires to tranquilize it, the use of opium and analogous preparations, and the warm bath during the paroxysm; and mild tonics during the interval. On these latter we cannot, however, lay much stress: the chief and indispensable means of restoration being active bodily exercise, if possible, accompanied by change of object and scene in the open air.

If the disease, suicidal mania, is evidently fixed, that is, if it goes beyond a mere passing desire to commit self-murder, then ought the subject of it to be subjected to the same rules and precautions—hygienic, medicinal, and moral, which are had recourse to in other cases of insanity. Among these, seclusion in a house or establishment away from the residence of the sufferer, and a strict surveillance, will be regarded as important.

Mr. Winslow devotes a chapter to the question—*Is the act of Suicide the result of Insanity?* The whole history of the subject tends, we think, clearly to an affirmative reply. The next chapter on *Suicide in connexion with Medical Jurisprudence*, is followed by another on the *Statistics of Suicide;* as this again is by one on the *Appearances presented after Death in those who have committed Suicide.* The fifteenth, and concluding chapter, is *Singular Cases of Suicide.* We shall conclude by an extract from the chapter, which is a short one, on the *post mortem* appearances of those who have destroyed themselves.

"From an examination of the particulars of 1333 cases of persons who have committed suicide, and who have been examined after death, the following analysis is made. The particulars of the cases referred to are recorded in the works of Pinel, Esquirol, Falret, Foderé, Arntzenius, Schlegel, Burrowes, Haslam, &c.

Thickness of cranium,	150
No apparent structural change	100
Bony excrescences	50
Tumours in brain	10
Simple congestion	300
Disease of membranes	170
Disease of lungs	100
Softening of the brain	100
Appearances of inflammation in brain	90
Disease of stomach	100
Disease of intestines	50
Disease of liver	80
Suppressed natural secretions	15
Disease of heart	10
Syphilitic disease	8
	1333

Accretions of the membranes of the brain are often found in suicides. The dura mater is often ossified, and the pia mater inflamed, and the arachnoid thickened. Osiander considers congestion of the vessels of the brain a frequent cause of suicide."

Annual Circular of the Medical Institution of Yale College,—for the Lecture Term of 1840–41.

In reference to the "Lecture Term" at this flourishing institution, we read that "The course of Medical Lectures commences annually at the expiration of six weeks from the third Wednesday of August, and continues sixteen weeks. The next term will commence on Thursday, October 1st, and continue until Wednesday, January 20th, 1841. Each of the Professors meets the class daily, except the Professor of Obstetrics, who lectures three times a week."

The fees for the whole course are $76. The price of board, room, &c., at New Haven, is from $2 50 to $3 50 per week, according to the accommodations required.

"Degrees and Licenses.—By the statutes of the State, the requirements of candidates for the Degree of Doctor in Medicine, are three years study for those who are not Bachelors of Arts, and two years for those who are; attendance upon two full courses of lectures, either at this or some similar institution; the attainment of twenty-one years of age; and a good moral charaater; together with a satisfactory examination before the Board of Examiners for the State, at which the candidate must present a dissertation on some subject connected with the medical sciences. The Board of Examiners consists of the six professors of the Institution, *ex officiis*, and an equal number of persons by the Fellows of the Connecticut Medical Society; the President of the Medical Society is, *ex officio*, President of the Board. The graduation fee is $15.

Candidates for license to practice physic and surgery must possess the same qualifications as those for degrees, except that attendance upon one course of lectures only is required. The licenses are granted by the President of the Connecticut Medical Society, on the recommendation of the Board of Examiners. The fee for a license, including diploma, is $4 50.

The examination is held immediately at the close of the lecture term, when the licenses are granted and the degrees conferred."

A good feature in the above regulation is the examination for degrees by a Board of Examiners, one half of whom have no professional connexion with the institution. But the distinction made between doctor and licentiate is an unfortunate one. The opportunities for acquiring knowledge by attendance on lectures possessed by a candidate for the doctorate are far from being too ample; and the requirements in this respect ought not to be abridged in favour of a licentiate. It is not the mere question of title, but of the qualifications to practice medicine in its various branches, in which the community has such a deep interest. If, therefore, the licentiate can be qualified by one course of lectures, it is injustice to ask an attendance of two from the Doctor. If two courses are required to fit a person to practice properly, as well as to acquire a degree, then is injustice done to the community, by allowing the licentiate to go abroad and take charge of the lives of his fellow-citizens. We are aware that the same objection may be brought against the Medical College of Philadelphia, in which there are two degrees, that of Bachelor, and of Doctor, of Medicine. But in this case, the former is placed on a par at once with the highest existing standard of doctorate in the other medical institutions of the commonwealth; and the latter is intended to represent more extensive qualifications than have as yet been thought necessary in conferring the degree.

LECTURES ON THE THEORY AND PRACTICE OF PHYSIC. By WILLIAM STOKES, M.D., etc. Second American edition. With numerous notes, and Twelve additional Lectures, by JOHN BELL, M.D., etc. Philada. Haswell, Barrington, and Haswell. Pp. 672, 8vo., 1840.

IN conformity with usage, we notice the publication of this work, as we do of all those of which copies are sent to us: but we cannot be expected to discharge in this instance our customary editorial duties by a critical review. We shall merely say that the publishers have redeemed the promise set forth in their advertisements, both in regard to the time of the publication, and the extent of the additions made by the editor. The new matter amounts to two hundred and fifty pages. With the heads of the topics treated of by Dr. Stokes, and of those introduced in the notes and additional lectures by Dr. Bell, the reader will become acquainted by reference to the Contents and Preface to the work, affixed to the present number of the Journal.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

THIS valuable work, which has acquired a hold on the affections of the medical profession in the United States, not more by its age than by its substantial merits, will, we learn from the announcement of its editor and publishers, appear in January in place of November next.

THE MEDICAL COLLEGE OF PHILADELPHIA.

THE Corresponding Secretary of this institution, John Bell, M.D., will be much gratified by receiving from time to time, from the officers of the different medical institutions, of all kinds, in the United States, the official publication of their rules and proceedings. The authors of dissertations and lectures on Medical Education, will also confer a service by forwarding to him their productions on this subject. Information thus acquired will be made useful for the benefit of the profession at large in the United States, by its members and association acquiring a knowledge of each other's plans and progress, and the measures adopted to promote their common welfare, which is inseparably allied to that of the public at large.

THE lecture on the "Diseases of the Veins," in our last number, was derived from the *London Medical Gazette.*

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(Continued from page 398.)

OBSERVATIONS OF TENOTOMIA AND MYOTOMIA, FOR THE CURE OF DEFORMED MEMBERS; ANATOMICALLY, PHYSIOLOGICALLY AND THERAPEUTICALLY CONSIDERED. WITH SEVENTY-FOUR CASES.

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Convinced as we are, from repeated investigation and observation, that the uniting medium between the two ends of the cut tendon, in consequence of coaptation of the surfaces, is very small, it remains for us to explain how the deformity can be remedied, and its rectification preserved, as the tendon is notably too short, and must be lengthened. The division being made, the tendon suddenly retracts, but after a while, when its muscular fibres have relaxed, the divided surfaces meet, and union by first intention is established. The extending apparatus, when applied, acts first on the uniting medium, stretching it in some degree; but the muscular fibres which terminate in the tendon also become extended, as is evinced by the feeling of fatigue and numbness in the muscles of the calf, of which the patients complain. But, at the same time that the uniting medium becomes extended, gradually allowing the replacement of the astragalus under the axis of the tibia, and the muscular fibres yield, the uniting medium undergoes the process of consolidation, and is converted into a substance analogous to the tendon, so that, although extended every day, its consolidation is not prevented, nor does its elongation increase in proportion as the foot regains its natural position, but the muscles become lengthened. At the end of the cure we find this uniting medium very small, while the muscular fibres are alone permanently elongated. For, as these are daily yielding, the intermediate portion has time to be consolidated, to become firmer and narrower. We see the same process in case of hare-lip with considerable defect. After the reunion the operated lip is very narrow, but the muscular fibre is extended in course of time, while the cicatrix remains small.

To this theory, that the muscular fibres are really elongated, and not the uniting medium, it might, we suppose, be objected, that the previous section would then be useless, and that extension alone would effect the end. Experience, however, is against it, as the extending apparatus, if no section be made, will stretch the tendon, without causing its fibres to yield; on the contrary, spasmodic action will set in with great suffering to the patient. But place a yielding substance between the surfaces of the tendon, and you will effect the gradual replacement of the bones of the tarsus; and while the process of consolidation of this yielding medium goes on, the extension is propagated to the muscular fibres. In infancy, and in cases of very slight contraction of the tendons, we might succeed with extension alone, but surgeons who practice without having recourse to tenotomia, even in infants, will admit that the suffering is greater, and more protracted than with it, and the cure requires a much longer period.

I cannot imagine why the cicatrix of tendons should not contract, when those in every other tissue are subject to consolidation of their structure. Surgeons, therefore, not admitting the relaxation of the muscular fibres, must be at a loss to explain how the normal position of the limb can be preserved. Duval, Bouvier, and others, would adduce as a reason, that subsequent contraction of the newly formed tendinous portion is prevented, while the bones are replaced, and support each other in their normal position ; and that exercise and weight of the body are the best counter-extension in the subsequent treatment. But deny the inherent power of the muscle to relax and to yield to gradual extension, and you will be at a loss to explain why the tendon should not become shortened again and the deformity reappear, as the newly formed cicatrix must contract and be reduced in size according to the laws of nature. We meet with great carelessness amongst the poorer class of people, we see our injunctions regarding the careful application of a proper shoe after the restoration of the foot too often neglected, and yet even under these circumstances the feet will often remain straight, so that if the *cicatrix of the tendon* formed the elongation, and not the *muscular fibres*, the deformity would undoubtedly return.

The explanation above offered will also be sustained by the after-treatment of other deformities. In case of *Torticollis*, or *wry-neck*, we find the sterno-cleido-mastoid muscle and its tendinous attachments contracted, we divide the former, wait for the process of reunion, and then commence extending the uniting bridge. This yields, but while it has a tendency to contract again, the extension becomes propagated to the muscular fibres, which are gradually elongated ; so that when the restoration is effected, the muscular fibre have yielded and not the uniting medium. This only forms the means of allowing the replacement of the deformed neck ; without this our efforts must fail, for extension if employed affects the distal extremities of the muscle, but these being tendinous and unyielding, spasmodic action in the muscle will take place, counteracting the effect we desire.

Whatever tendon or muscle may be divided for the restoration of the different deformities of the human frame, the process of reparation is always the same, and the explanation we offer about the elongation of the muscular body holds good in every instance. We should suppose that after the restoration of the foot, the muscles (both *peronei.* and *extens. commun. digitor. long.*) operating as antagonists to those which were contracted, would counterbalance the subsequent contraction, and keep the foot straight; but they are elongated, mostly paralysed ; and it requires a great length of time before they can operate with sufficient power to act as such. Proper exercise and repeated exertion are indispensably necessary for a short time afterwards to prevent the contraction ; for the muscles must become used to the elongation, or else they will contract, particularly in cases of long standing, and the operation will not be so successful. Gymnastic exercise is absolutely necessary after the operation for deformities of the spine, and greater watchfulness on the part of the patient is required after the operation for wry-neck and for muscular contractions in the groins and ham, for this reason, that there is wanting that support which the stretched muscles and tendons find in the replacement of the tarsal bones in case of club-foot; but even here we find it clearly proved, that if we depended on the elongation of the uniting medium of the tendon, and not on that of the muscular fibres,—the new cicatrix, which is subject to contraction, would easily deform the foot again, particularly in grown persons, as there is a disposition in the articulating surfaces of the tarsal bones to glide into their abnormal position, in which they have been accommodated for years.

When ligaments are cut, for instance the anterior annular ligament, uniting the *tuberculum ossis navicularis* to the *malleolus-internus*, there will not take place immediate coaptation, their fibres not being possessed of relaxation; but this we do not desire, as its reunion would rather interfere with the process of extension, and no material advantage could be desired afterwards from the continuity of the ligamentous fibres. We therefore exert the foot after the operation, to prevent them from uniting.

Having arrived at the conclusions above mentioned by careful examination and repeated investigation of the subject, on which little or nothing had been said by surgeons, we offer these remarks to the profession without apology; but would ask for them an impartial investigation, and shall thankfully receive any instruction if our views are found not to be correct.

But if the views above expressed stand the test of physiological and pathological investigation, the practice which allows *time* for the reunion is not only justified, but deserves preference to the other, in which extension is resorted to *immediately* after the operation. The former is not so painful, and facilitates coaptation of the extremities, while the latter is attended with much pain from the onset and might disturb in some instances reunion. However, we have remarked before, that the ligaments participate in the contraction, that the bones are partially dislocated, and that, after the operation, at least in grown persons, an immediate rectification of the foot is impossible, and thus the danger is obviated that extension would be carried beyond the point at which coaptation takes place. The surgeon might, therefore, endeavour to keep the extremities of the tendon apart but he will be disappointed; they will meet and unite by first intention. And even in children where this aggravated state of deformation does not exist, and the operation immediately restores the member, extension cannot be carried so far as to prevent coaptation, as the deformity is generally slight, and the tendons not much shortened.

But to obviate unnecessary pain and the risk of non-union, it is, we think, prudent to wait twenty-four or forty-eight hours, till coaptation has taken place, and then to commence gentle extension. Although experience has proved that reaction is trifling after tenotomia, still it would be reasonable to prevent by all means an undue excitement, which would ensue from forcing the foot into its straight position, and which would expose it to the subsequent danger of inflammation, uppuration, and sloughing of skin and tendon.

Surgeons, however, who are acting on the principle that coaptation of the extremities of the tendon is necessary to the process of reunion, are, on the contrary, too anxious to bring about the desired effect, by bandaging the foot most carefully, and keeping it in the crooked position for several days before they resort to extension, for they apprehend that reunion could not be otherwise effected. This practice, although correct, need not be so strictly followed, for the extremities will meet under a bandage applied with the intention of keeping the foot in a slightly extended position. Reunion even will take place if no bandage at all is applied, as I have frequently seen where the bandage was pulled off by the struggling of the child. But how great would be the surprise of our forefathers, who considered tenosuture as indispensably necessary to reunion, at our practice of cutting the tendon, and leaving it to nature to take care of itself and to repair the injury, without any fear on our part, that coaptation would not take place!

To apply a light dressing after the operation, to evert the foot as much as the patient's feelings will allow, to prevent reunion of the ligaments, should they have been divided, and to resort to the extending apparatus twenty-four or forty-eight hours after the operation, when reunion is established, and the small orifices of the skin have closed, is the practice we follow, and which is sanctioned by the experience of many surgeons. There need not be any apprehension that the newly-formed medium could be broken at this time, if extension is carried on gently, as it ought to be. Four or six weeks after the operation extension ought never to be attempted, as the uniting medium has become by this time unyielding.

We have insisted much on the division of *every* muscle, tendon, and ligament participating in the contraction, which will be followed by a less painful after-treatment, say in children and slight cases even without any pain. If pain is experienced during extension, it results from the gliding of the rough surfaces of the displaced bones under a smooth and polished articulation, from the pressure of their surfaces, and often from undue pressure of the bandages. The superior surface of the astragalus, partly displaced and rough, has to glide under the articulation of the tibia, and no doubt pain will arise and continue till absorption has taken place and made the surface smooth. Again, on the inner side of the foot, we see the *caput astragali* having left the articulation of the *os semilunare*, it has to be replaced and rubbed against a smooth surface.

The pain felt in the stretched muscles and tendons is of short duration, lasting from a quarter of an hour to an hour after each extension, and is rather more of a weary and fatiguing character like that felt after great muscular exertion, while that raising from the squeezing of the bones will remain for a longer time.

Contraction of the knee-joint, of very frequent occurrence after white swelling, rheumatic, spasmodic, and paralytic affections, and after external injuries, can also be remedied by Strohmeyer's ingenious operation. Ankylosis alone would be a contraindication, but as long as the surfaces of the joint are free, success is certain, however great the deformity may be, even if entire luxation of the articulating surfaces exists. But the propriety of an operation can only be determined by the absence of every trace of inflammatory action, which in scrofulous swelling is particularly to be inquired into. The remaining swelling of the condyles of the femur does not constitute an objection, if every vestige of inflammation is gone. Both heads of the *biceps femoris*, the *semi-membranosus*, *semi-tendinosus* and *gracilis*, are generally contracted, but more especially the *biceps*, causing a sub-luxation of the knee-joint inwards. Not unfrequently the patella is slightly displaced outwardly, and stands in an oblique direction to the median line of the femur. The section of its ligament will sometimes be required, if the knee inclines much in at the same time that it is contracted. The patella itself appears immoveable, but not so after the extension of the joint is completed.

The operation on the tendons in the ham is easily performed one inch from their attachment above the condyles of the femur. A small, strong, sharp-pointed, and slightly concave knife, is entered under the skin, and the section performed from below upwards. No important vessel will be endangered if we keep close to the tendon, and the restoration of the extremity will often follow immediately, except in cases of white swelling, or where the inflammation has been very acute. The ligamentous apparatus enveloping the joint posteriorly is much contracted, which will oppose the immediate, but yield to the gradual extension of the knee. The extension can generally be finished in a few weeks. It is much easier than in contracted feet, for it has only to be carried in one direction, and any apparatus that can be gradually extended will answer. We have described ours in a report of a case of an extensive contraction of the lower extremities some time ago ; but we admit that even a well padded straight splint placed on the posterior side of the extremity, and secured by a roller, which is tightened every day, will answer in a good many cases. After the restoration a support to the knee-joint is to be worn.

We sometimes meet with cases where *flexion* of the knee-joint is impracticable in consequence of previous inflammation. The *ligamentum patellæ* has become contracted, and also the tendinous expansion of the *rectus femoris* and *cruralis* muscles. The section of either of them is to be performed in case the patient should insist on having his knee made pliable. The success, however, will depend on the patient's paying attention to keep the joint pliable.

There is *one* deformity yet which deserves particular attention, as the case might be easily mistaken for disease of the hip-joint, and be pronounced incurable. Not unfrequently, we observe after injuries of the hip-joint the extremity shortened, although there has been neither fracture nor luxation. The patient can use the joint, is able to adduct the femur, but abduction is impracticable, and the femur itself is kept somewhat bent towards the abdomen. The pelvis appears raised on the affected side, the trochanter is higher, and the hip-joint more full than natural. The extremity is much shorter, and the patient walks on the tip of his toes. This case looks like disease of the hip-joint, but on minute examination the latter will be found free and without pain: there is no dislocation of the head of the femur, but the trochanter is raised, the superior edge of the acetabulum, we think, being absorbed by the pressure of the neck of the femur, thereby facilitating the shortening of the limb. The nature of this affection is contraction of the adductor muscles of the thigh and its fascia induced by inflammatory action, and the section of the contracted parts with subsequent extension will restore the deformity. We have seen cases which had been repeatedly pronounced disease of the hip-joint, where the section of the adductor muscles removed the deformity. Whether in inflammation of the hip-joint ending in shortening of the limb, a dislocation of the head of the femur *always* takes place with the subsequent formation of a new acetabulum, is a question which requires further investigation. It is not unlikely that, at least in many instances, where the joint remains moveable, contraction of the adductor muscles causes this shortening without any dislocation of the head of the femur and the supposed artificial acetabulum, and that only in those instances of shortening, where no motion in the hip-joint exists, luxation of the femur actually takes place.

The following cases, operated on, will support and confirm the justness of our views. In conclusion we will give a statistical table, containing the number of cases operated on by different surgeons, which we have gathered from scattered reports. Many questions, as, for instance, if the deformity is hereditary, can only be settled by collecting the observations of different authors, and for this reason we intended to make a beginning by offering a statistical summary.

CASE XI.* *Congenital inverted club-foot of the right extremity with subluxation of the knee-joint inwards.*—Milton M·Clelland of this city, seventeen years of age. In this case the fourth and fifth toes are bent, on which, and on the back of the tarsal bones, the patient walks. The sole of the foot faces up and backwards. There is also a subluxation of the right knee inwards, and the tibia bends backwards when the knee is extended. Operated upon April 29th, 1839, in the presence of Drs. J. P. Gazzam, G. D. Bruce of this city, Drs. T. Dale, and J. W. Smith of Allegheny, The *tendo-Achillis*, *tendo-tibialis anticus* and *posticus*, with the *anterior* and *internal annular ligament*, the *flexor digitorum communis brevis* and the *aponeurosis plantaris*, were divided without any loss of blood (three tendons, three ligaments, and one muscle). Forty-eight hours after the operation the extending apparatus was applied, and the extension continued during twenty days without intermission, at the expiration of which the foot appeared perfectly straight. The counter-extending shoe was then applied, and worn during five weeks, after which he preferred to use a common shoe, and is now walking without any support and with more comfort and ease than formerly. There is some difference in the length of the extremities; the affected one being shorter.

CASE XII. *Everted club-foot in a very aggravated state*, consequent on paralysis of the muscles of the front and inner side of the leg. Miss Anne Long, of Bloomsfield, Jefferson County, Ohio, thirty years of age, was operated on May 15th, 1839, for everted club-foot of the left extremity. The deformity commenced after an attack of fever when she was a year old, and grew worse as she advanced in years. The lameness is great, the extremity being too inches shorter. When walking, the support of the foot is the *tuberculum ossis navicularis*, and the inner side of the *os calcis*; the foot being thrown out and its external edge raised. The *malleolus internus* is very prominent, and the sole entirely level; below the external *malleolus* there is a deep hollow. In the presence of Dr. J. P. Gazzam, the *tendo-Achillis* and *both peronei muscles* were divided, the foot immediately allowing the replacement to its natural position. Forty hours after the operation the extending apparatus was applied, and the extension continued during three weeks; at the expiration of which the foot appeared perfectly restored, and the affected extremity nearly of the same length as the other. The laced boot with steel springs was then applied, and she was permitted to walk on the entire sole of her foot, the lameness being now very trifling. The shoe we ordered to be worn for at least a year, which the advanced age and the great relaxation of the ligaments of the ankle-joint made requisite.

CASE XIII. *Phalangian club-foot of the left extremity*, subsequent on infantile disorder, terminating in paralysis of the *extensor communis digitorum longus* and *musculi peronei*.

Augustus Waldan, of Middleton, Pa., twenty-two years of age. Operated upon May 19th, 1830, for contraction of the *tendo-Achillis*, *tendo-tibial. antic. et*

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* The first ten cases have already been reported in the Eclectic Journal of Medicine, Vol. III. p. 366–75.

postic., *flexor pollicis longus*, *flexor communis digitorum brevis cum aponeurosi plantari et ligament. annular. antic.* (four tendons, three ligaments, and one muscle). The patient walked on the metatarsal extremities of his toes, the heel being raised five inches. The *capitulum ossis astragali is very prominent on the back* of the foot, having entirely left its articulation with the *os naviculare.* Extension was commenced twenty-four hours afterwards, and continued during four weeks. Two weeks afterwards the patient could already walk a considerable distance. He returned home, and afterwards removed to Ohio.

CASE XIV. *Congenital inverted club-foot of the right extremity.*—Mary Jane Paddock, of Butler co., Pa., aged four weeks. On May 20th, 1839, we divided the *tendo-Achillis*, *tibial. antic.* and *postic.*, *flexor commun. digitor. brev.* and *aponeurosis plantaris* and *flexor pollicis long.*, and extended the foot for ten days. The shoe was applied, and six days afterwards we sent our patient home.

CASE XV. *Congenital inverted club-foot of both extremities.*—John Murray of Allegheny, fourteen months of age, a strong, healthy boy, was operated upon May 23d, 1839, for inverted club-feet in its most aggravated state. Present, Drs. G. Bruce and Brooks, of this city. The left foot is more contracted than the right. The *tendo-Achillis*, *tibial. antic.* and *postic.*, *flexor digitor. communis brevis* with the *aponeurosis plantar*, *flex. pollicis long.*, *abductor pollicis* and the *ligam. annulare anter.*, were divided on each extremity without any loss of blood. Twenty-four hours afterwards Strohmeyer's foot-board was applied, and extension commenced. The patient was rather troublesome, and bronchitic affection supervened; nevertheless we continued the extension, and at the expiration of four weeks his feet were perfectly straight. The counter-extending shoes were now applied, which we ordered to be worn for a year and a half. We insisted on the mother's bringing our patient once a week to our office to have his feet dressed, but since the 14th of July, 1839, she neglected it, and we have not since heard of him. His feet had been very much distorted, and therefore the strictest attention on the part of the parents for the proper application of the shoes was the more requisite.

CASE XVI. *Congenital inverted club-foot of both extremities.*—Walter Craig, of Crosscreek Village, Washington co., Pa., five weeks of age, presented a very bad kind of club-feet. There has never been a similar case in the family as far as they can recollect. On June 4th, 1839, both feet were operated on; present Dr. Tho. Dale and Dr. Hannen, of Allegheny. The *tendo-Achil.*, *tibial. antic. et postic.*, *ligament. annulare anter.* and *deltoid.*, and the *flexor communis digitor. brevis* with the *aponeuros. plantar.* were divided on each foot. The left foot was more contracted than the right, and the inclination of the left knee also greater. Eighty four hours after the operation, Strohmeyer's apparatus was applied. The extension did not cause the least pain to our patient, for he rested and thrived as well as any babe, to the great surprise of the mother, who anticipated much suffering. The extension was continued for fourteen days, when his feet were straight. The counter-extending shoes were applied, and, on June 29th, the mother left us, highly satisfied with the success of our treatment. We have since repeatedly heard of our patient: his feet are as natural as any child's, and he is already walking (June 25th, 1840).

CASE XVII. Charles W———e, of this city, sixteen months of age.—*Congenital inverted club-foot of the right extremity.*—This case had been withheld from our care for some time through the ungentlemanly conduct of the family physician, who, besides condemning an operation with which he was unacquainted, resorted to personal abuse. He had promised to cure this case, although entirely ignorant of the anatomy and pathology of this deformity. The little fellow, although but a slight case, suffered much under his treatment for many months, without deriving any benefit. He was placed under our care, and we operated on him June 6th, 1839, by dividing the *tendo-Achillis*, *tibial. antic.* and *postic.* through three incisions of the skin. Neither bleeding nor any inconvenience followed. Twenty-four hours after the operation we commenced extension, which went on without causing our patient any pain. Six days after the operation the foot had acquired its proper position; however, we kept on the apparatus for a few days longer. Ten day after the operation we substituted the counter-extending shoe, and had the satisfaction to see our patient the next day standing on the sole of his foot. The operation, although pronounced Dutch humbuggery by the family physician, succeeded so well as to restore the foot in six days. On June 26th our patient left us, the family removing to Butler county. We have since heard repeatedly of him: he is now walking so well that the existence of the deformity cannot be detected by the most experienced eye.

CASE XVIII. *Phalangian club-foot of the left extremity* in consequence of paralysis of the *extensor commun. digitor. pedis* and the *musculi. peronei.*—Miss Jane Eliza W., of this city, sixteen years of age. When three years old the left extremity became completely paralysed during a febrile attack, the power of motion returned in some degree, but not that of sensation. The extensor muscles of the leg remained paralysed, while the flexors recovered. In walking, the ball of the big toe alone touched the ground, the heel being raised between five and six inches. A year and a half ago she was placed under the care of Dr. Thomas Harris of Philadelphia, and recovered the power of sensation. The extensor and peronei muscles, however, remained paralytic. Dr. H. applied an iron shoe, which he confidently anticipated would effect a cure. This was worn during eighteen months without any benefit, the foot remained as crooked as before; which convinced us that no mechanical means would succeed. —*Present state.* The foot cannot be raised on account of the paralysis of the extensor muscles; the *dorsum pedis* is very convex, and the sole forms an arch; the pelvis is somewhat raised on the affected side, the heel being more than five inches from the ground. June 10th, 1839, we divided, kindly assisted by Dr. J. P. Gazzam, the *tendo-Achillis*, *flexor communis digitor. brevis* and *aponeurosis plantaris*, *tibial. antic.* and *postic.*, and *ligament. annulare anter.* and *flexor pollicis longus*, (4 tendons, 1 muscle, 1 aponeurosis, 1 ligament,) through three incisions of the skin without the least bleeding. At the expiration of 48 hours we commenced the extension, and continued it during four weeks, having an unusual trouble from the patient relaxing the straps. However, we succeeded in restoring the foot, the *dorsum pedis* being only a quarter of an inch higher than that of the sound foot. The affected extremity is half an inch and the foot itself three-quarters of an inch shorter than the other. The appearance of the fore part of the foot is now entirely natural, the toes decreasing in length from the big toe, while before they were all on the same line. She is now able to raise the foot and use the ankle-joint, and feels highly gratified with the success. We put on the counter-extending shoe, which she now wears, and walks well and without fatigue. There remains a slight halting in her gait, which, however, can be overcome by strict attention.

CASE XIX. *Congenital inverted club-foot of the right extremity* in an aggravated state.—Robert Long, of St. Clair township, Allegheny county, Pa., fifteen years of age. There seems to be some hereditary disposition connected with this case, for his ankle is affected with double inverted club-foot. June 13th, 1839, the *tendo-Achillis*, *tibial antic.* and *postic.*, *ligament. annulare*, *anterius* and *deltoid.*, *flex. digitor. communis long.*, *flexor pollicis long.*, *muscul. abductor pollicis*, *flexor digitor. communis brevis* and *aponeurosis plantaris*, (five tendons, and muscles, and ligaments, and one aponeurosis,) were divided through five incisions of the skin (present Dr. G. Bruce). Forty-eight hours afterwards we commenced extending the foot, and continued it during five weeks, when the foot appeared natural in shape and position, the sole of the foot being now two inches longer than previously. We applied the counter-extending shoe, and the patient soon began to walk on the sole of his foot. We saw him a few weeks ago and were highly pleased to find that he continues to wear the shoe, that his foot is entirely natural: there is free motion in the ankle-joint, and no trace of the deformity exists.

CASE XX. *Congenital inverted club-foot of the left extremity* in a very aggravated state. David R——e, of this city, attorney-at-law, twenty-seven years of age. In this case the toes pointed backwards, and the back of the foot rested on the ground. He wore a shoe with a sole one inch and a half thick to remedy the disproportion in length between the extremities. June 19th, 1839, we operated on him in the presence of Drs. J. P. Gazzam, A. N. McDowell, Henry Stevenson of Pittsburgh, Dr. T. Dale of Allegheny, and Rev. Dr. Upfold. The *tendo-Achill.*, *flex. commun. digitor. long.* and *brevis*, with the *aponeurosis plantaris*, *tendo-tibial. antic.* and *postic.*, *anterior* and *internal annular ligament*, *flex. and extensor pollic. long.*, and the *abductor pollicis*, were divided through five incisions of the skin without any loss of blood (six tendons, two muscles, and three ligaments). The foot after the operation allowed of eversion nearly to its normal extent. Forty-eight hours afterwards we commenced extension of the foot, and went on with it during four weeks. We were very successful in the restoration of this foot, but unfortunately at the expense of sores on its dorsum, which were made more tedious and troublesome by the patient's highly irritable and fractious disposition: five weeks after the operation we applied the counter-extending shoe, and directed it to be worn for a year. While attending to the sores, our patient left us without our consent, preferring the medication of a country physician, his brother-in-law. Three months after, when he would have had the use of his foot, and when the sores should have been healed, he returned with the original sores deeply ulcerated. Although much dissatisfied with his conduct, we were persuaded at last to take charge again of the case. The ulcerations were very troublesome, but yielded at last in the course of six weeks. While in the country he took off the shoe, kept his foot hanging without any support, so that when he returned the ankle-joint was not so pliable. Since then he has commenced walking, and can now use his foot very well. The cure is quite perfect, the foot being entirely natural in shape and position. The deformity was completely removed in five weeks, but owing to the mismanagement of the sores he did not walk until five or six months after the operation.

CASE XXI. *Congenital inverted club-feet of the right extremity.*—Thomas Barton, of Allegheny county, Pa., aged eighteen months. June 23d, 1839, the *tendo-Achill.*, *tibial antic.* and *postic.*, were divided. The foot was restored in six days, and after seven days the patient left us, being already able to stand on his foot.

Case XXII. *Congenital inverted club-foot of both extremities.*—Sophia Shannon, of Allegheny co., Pa., aged nine years. Operated upon August 5th, 1839. The *tendo-Achillis*, *tibial. antic.* and *postic.*, *flex. pollic. long.*, *flexor commun. digitor. brevis.* with the *aponeurosis plantaris*, *ligament. annulare antic.* and *postic.*, were divided on each extremity (four tendons, one muscle, and three ligaments). The right foot being more deformed than the left. Extension was commenced twenty-four hours afterwards, and continued for twenty-four days, at the expiration of which the feet were straight. The counter-extending shoe was applied, and two weeks afterwards she left us, being already able to walk. The family has since removed to Ohio.

Case XXIII. *Congenital inverted club-foot of the right extremity.*—George Jones, of Allegheny co. Pa., aged eight years. Operated upon Aug. 10th, 1839. *The tendo-Achill.*, *tibial. antic.* and *postic.*, *flex. pollic. long.*, *flexor digitor. commun. brevis* and *aponeurosis plantaris*, *ligam. annular. anter.* and *deltoid*, (four tendons, one muscle, and three ligaments,) were divided. Twenty-four hours afterwards extension was commenced, and continued for three weeks. The counter-extending shoe was applied, on which he walked a few days afterwards. Eight days from the time of the application of the shoe our patient left us, and has lately removed to Indiana.

Case XXIV. *Congenital inverted club-foot of the right extremity.*—David Metzgar, of Mount Pleasant, Westmoreland co., Pa., aged twenty-three years, presented the greatest contraction and deformity we ever yet saw. The sole of the foot was twisted completely round, and faced upwards. Operated upon September 4th, 1839, in the presence of Dr. G. Bruce. The *tendo-Achillis*, *flexor commun. digitor. brev.* and *aponeurosis plantaris*, the *flex. pollic. long.* and *abductor pollicis*, the *extensor pollic. long.*, *tibial. antic.* and *postic. flexor communis digitor. long.*, and *ligament. annulare anterius* and *intern. deltoid*, (six tendons, two muscles, and three ligaments,) were divided. Forty-eight hours afterwards we commenced extending the foot. We succeeded in restoring it in five weeks, when the counter-extending shoe was applied. Seven days afterwards the patient left us for his home. We saw him after three weeks, when he walked on the sole of his foot, and he is now doing extremely well.

Case XXV. *Congenital everted club-foot of the left extremity.*—Margaretta Ginen, of Allegheny, three days old. The external side of the foot is raised, and the foot much everted. Without dividing the peronei muscles, (there being no structural contraction,) we applied the extending apparatus, and removed the deformity in a few days. A proper shoe was applied, and now no trace of deformity is left.

Case XXVI. *Everted club-foot of the right extremity.*—Mary Lloyd, of this city, two years of age. The ankle-joint was hurt six months ago; after which a relaxation of its ligaments remained, favouring the development of everted club-foot. There was no structural contraction of the peronei muscles, but the foot rested on the inner side, and turned much out. A proper shoe with steel springs was applied and worn for a year. The ankle-joint recovered its strength, and she is now walking very well.

Case XXVII. *Inverted club-foot of the right extremity*, from paralysis of the peronei muscles, and those on the front of the leg.—Cecilia Fisher, a native of

Germany, seven years old. She lost the power of motion and sensation in the lower extremities four years ago during an attack of fever; the left one, however, entirely recovered, but not so the right. The deformity of the foot is just in the commencement; there is slight contraction of the tendo-Achill., tibial. antic. and postic., which were divided October 14th, 1839. Extension was commenced twenty-four hours afterwards, and continued during ten days. The counter-extending shoe was applied, and the patient was able to walk in it without inconvenience.

CASE XXVIII. *Congenital inverted club-foot of both extremities.*—William Hamilton Weacock, of Clarkson, Columbiana co., Ohio, six years of age. This case was placed under our care, owing to the boy's repeated solicitation to have his feet straightened. The contraction of the tendons is great, more so on the left foot. There is no remarkable feature, except that the *malleoli interni* which are prominent, are generally wanting in this deformity. Operated on October 15th, 1839, by dividing the *tendo-Achillis*, *tibial antic.* and *postic.*, *flex. comm. digitor. brevis*, with the *aponeurosis, plantar. and ligament. annul. anterius* (three tendons, one muscle, and two ligaments) on each extremity, Forty-eight hours after the operation extension was commenced, and continued during seventeen days on the right and twenty-one days on the left foot. Five weeks from the operation our patient left us, and had already made considerable progress in walking.

CASE XXIX. *Congenital everted club-foot of the right extremity.*—Henry McCoy of Beaver co., Pa., aged seven years. Operated upon October 20th, 1839, by dividing the *tendo-Achil.*, *tibial. antic.* and *postic.*, *flex. pollic.*, *long. flex. commun. digitor.*, with the *aponeurosis plantar.* (four tendons, one muscle, and one ligament). Extension was commenced twenty-four hours afterwards, and continued during fourteen days. Ten days later the patient left us, when he could walk without limping.

CASE XXX. *Congenital everted club-foot of the right extremity.*—Albert Schaefer, a native of Germany, ten years of age. The deformity was slight. The *tendo-Achillis*, *tibial. antic.* and *postic.*, were divided. Twenty-four hours afterwards we commended extension, and continued it during nine days. He commenced walking a few days afterwards.

CASE XXXI. *Congenital inverted club-foot of the right extremity* with inversion of the knee-joint.—David G. Bynon, of this city, aged five years. The deformity is very great, the articulation of the astragalus is much displaced, and the sole forms a great arch. The tendons are uncommonly long and the muscles much wasted, the heel being three inches too short, and the toes pointing entirely backwards. The foot did not allow of the least eversion. The left foot, although natural, inclines much inwards. Operated upon November 6th, 1839 (present Dr. G. Bruce). The *tendo-Achill.*, *tibial antic.* and *postic.*, *flex. commun. digit. long.*, *flex. pollic. long.*, *flex. commun. digit. brev.* and *aponeuros. plantar. ligam. annulare anterius and intern.* (five tendons, one muscle, and three ligaments) were divided through three incisions of the skin. Forty-eight hours afterwards extension was commenced and continued during twenty days. Our patient used his foot very soon, which is perfectly straight, although the head of the tibia turns inwards and backwards, giving a halting to his gait.

CASE XXXII. *Congenital inverted club-foot of both extremities.*—Sarah Scott McF., of Meadville, Crawford co., Pa., aged six weeks. Operated upon November

18th, 1839 (present Dr. G. Bruce). The *tendo-Achillis*, *tibia. antic.* and *postic.*, *flex. pollic. long.*, *flex. commun. digit. brevis*, with the *aponeurosis plantaris* (four tendons, one muscle, and one aponeurosis) were divided on each extremity. Although the feet were much deformed, still we succeeded in restoring them in twelve days from the time of the operation. Our patient suffered but little from the treatment, for she thrived as well as usual. The counter-extending shoes were applied, and on January 18th, 1840, she left us. We have since heard of her: her feet have become as straight as if they had never been deformed.

Case XXXIII. *Inverted club-foot of the right extremity* after injury of the ankle-joint.—Emma Jane Filson, of Jacksonville, Morgan co., Illinois, aged six years. When three years old she sprained her ankle-joint, and was unable to walk for more than three months; however, she recovered in some degree, when the muscles of the calf and the inner side of the leg became contracted. Walking was extremely painful and tiresome, and the lameness very great. When walking the dorsum of the two last toes touched the ground, the heel being raised for two inches, and the toes pointing inwards; the *capitulum ossis astragali* is very prominent on the back of the foot. December 4th, 1839, the *tendo-Achill.*, *tibial. antic.* and *postic.* and *ligament. anter.* and *intern*, (three tendons and ligaments) were divided through two incisions of the skin. The heel immediately came down to its normal extent. Extension was commenced twenty hours afterwards, and continued during eight days, when the counter-extending shoe was applied. She commenced walking in a few days with scarcely any lameness, and without any pain. She went home in the spring of 1840, the family being highly pleased with the result of the operation, after having vainly tried every means before.

Case XXXIV. *Congenital inverted club-foot of the right extremity* in an aggravated state.—T. John Crooks, of Adams township, Guernsey co., Ohio, aged five years. This was a strong and healthy boy, presenting a bad form of club-foot. He was operated on December 7th, 1839, by dividing the *tendo-Achillis*, *tibial. antic. and postic.*, *flex. commun. digit. brev.*, *aponeurosis plantaris*, and *flexor pollicis long.*, *ligament. annulare anterius* and *intern.* and *flex. commun. digitor. long.*, though four incisions of the skin (five tendons, one muscle, one aponeurosis, and two ligaments). Extension commenced twenty-four hours afterwards, and continued during fourteen days without intermission, the patient bearing the after-treatment very well. On the seventeenth day after the operation the counter-extending shoe was applied, and the patient permitted to walk. On the 30th of December my patient left me for his home, and while writing I received a letter from his father, stating that John's foot continues to be as straight as the other, and that he can walk any distance without inconvenience from it.

Case XXXV. *Inverted club-foot of the right extremity* from paralysis of the *extensor long. comun. digit.* and the *musculi peronei.*—Margaretta Gilchriest, of Unity township, Westmoreland co., Pa., aged nine years. When eighteen months old she was attacked with fever, in consequence of which she lost the use of the lower extremities. The left limb recovered completely, but not the right; there remained a paralysis of the muscle of the front and outer side of the leg, in consequence of which the antagonist muscles contracted. Walking was very painful and tiresome.—*Present state.* The right extremity is much wasted, although power of sensation is perfect, but not so that of locomotion. The lameness is very great, the astragalus is luxated outwards, the foot turns in, and the support of the body is the external edge of the foot. The heel is contracted more than two inches, and the *capitulum ossis astragali* is very prominent on the back of the foot. January 30th 1840, we divided the tendo-Achill., *tibial. antic.*, and *postic.*, *flex. commun. digitor. brev.*, with the aponeurosis plantaris, and the *flex. pollic. long.*, through three incisions of the skin (four tendons, one muscle, and one aponeurosis). Twenty hours after the operation extension was commenced and continued during fourteen days. The counter-extending shoe being applied, she was permitted to walk. Our patient suffered very little from the extension, and on the 19th February she left us. We saw her four weeks afterwards, when she walked with comfort and ease on the sole of the foot.

CASE XXXVI. *Congenital inverted club-foot of the left extremity.*—Jacob Ruth of Mercier co., Pa., aged fifteen years, was operated on February 15th, 1840, by dividing the *tendo-Achillis*, *tibial. antic.* and *postic.*, *ligam. annular. anter.* and *intern.*, *flexor commun. digitor. brev. and aponeurosis plantar.*, (three tendons, one muscle, and three ligaments). Twenty-four hours afterwards we began to extend the foot. After three weeks' extension we applied the counter-extending shoe, and he left us after two weeks, being already able to use his foot pretty well.

CASE XXXVII. *Congenital inverted club-foot of both extremities* in an aggravated form.—Jacob Schlicker, a native of Prussia, nine years of age. The feet are much distorted, more especially the left one. A thick ball on the dorsum of the foot is the only support, while the toes incline much in. March 12th, 1840, we divided the *tendo-Achillis*, *tibial. antic.* and *postic.*, *flex. pollic, long.*, *flex. commun. digitor. brevis*, with the *aponeurosis plantar.*, *ligam. annular. anter.* and *intern.*, through three incisions of the skin on each extremity (five tendons, one muscle, one aponeurosis, and two ligaments). Forty-eight hours afterwards Strohmeyer's apparatus was applied, and continued during twenty days' without intermission. We substituted then the counter-extending shoes, and were surprised to see him walk well in a week afterwards; and two weeks after he was as quick on his feet as before, no trace of previous deformity being left. We have never before witnessed such a rapid recovery.

CASE XXXVIII. *Phalangian club-foot of the left extremity* with subluxation of the knee inwards (from paralysis of the muscles of the front and outer side of the leg).—James P., of this city, seven years of age. When one year old the left extremity became paralysed during an attack of fever, and prevented him from walking. However, it recovered in some degree, but the flexores and inversores contracted. He rested on the ball of his big toe when walking, the heel being raised four inches. Operated upon April 14th, 1840, by dividing the *tendo-Achillis*, *tibial. antic.* and *postic.*, *flex. pollic. long.*, *flex. commun. brevis* and *aponeurosis plantaris* (four tendons, one muscle, and one aponeurosis). Extension commenced twenty-four hours afterwards, and continued during twenty days. The counter-extending shoe was then applied, and the patient permitted to walk. He walks now well, without fatigue on the sole of his foot.

CASE XXXIX. *Congenital inverted club-foot of both extremities* in a very aggravated form.—Emila Missouri Clary, of Frostburgh, Allegheny co., Maryland, twenty months of age. There appears to be some hereditary disposition, for the uncle of the child has the left foot deformed. This girl, extremely scrofulous, had never yet attempted to use her feet, which were much distorted, the astragalus being so much displaced as to throw the malleolus externus more forward, and to raise it out of its situation. The sole faces entirely upwards, and the heel is raised so much that the dorsum pedis is on the same line with the tibia. The family were very anxious to have the operation performed. On May 12th, 1840, the *tendo-Achillis*, *tibial. antic.* and *postic.*, *flex. pollic. long.*, *ligam. annular. anter.* and *intern.*, were divided through three incisions of the skin on each extremity. Forty-eight hours afterwards extension was commenced, but had repeatedly to be discontinued on account of the fretfulness of the child and the tenderness of the skin. Twenty days from the operation the right foot was restored, and the counter-extending shoe was applied, but the left foot became sore and would not allow of further extension. The family being prevented by domestic circumstances to remain longer in this place left on the 12th of June.

Case XL. *Congenital inverted club-foot of the left extremity* in an aggravated state.—Benjamin Franklin Clary, of Frostburgh, Alleghany co., Maryland, aged twelve years. He is the uncle of the girl reported in the previous case. Eversion of the foot is impossible by any means, the sole forms a deep arch, and the toes point entirely backwards. Operated upon May 12th, 1840, by dividing the *tendo-Achill.*, *tibial. antic.* and *postic.*, *flex. long. digitor. commun.* with the *anterior* and *internal annular ligam.*, *flexor proprius pollicis pedis*, *flex. commun. digitor. brevis* with the *aponeurosis plantaris* (five tendons, one muscle, one aponeurosis, and two ligaments) through four incisions of the skin. We commenced extension twenty-four hours afterwards, and went on with it without intermission for during four weeks. We applied the counter-extending shoe, and permitted him to use his foot. On the 19th of June, he left for home, being yet afraid to step on his foot without using a crutch.

Case XLI. *Inverted club-foot of the left extremity*, from paralysis of the *extensor communis digitor. long.*, and *musculi peronei* after birth.—Thomas Netmeyer, a native of Bavaria, aged fourteen years. When one year old the left extremity became paralysed and useless, but recovered, so that he commenced to walk in the third year of his age. The foot is completely turned in at the ankle-joint, so that its dorsum and the *malleolus externus* are applied to the ground; his lameness being very great. On May 14th, 1840, the *tendo-Achill.*, *tibial. antic.* and *postic.*, *flexor commun. digitor. long.* and *flex. proprius pollicis pedis*, with the *ligam. annular anter.* and *intern.*, were divided (five tendons and two ligaments). Extension was commenced twenty-four hours afterwards and continued during three weeks. The counter-extending shoe was applied, and the patient permitted to walk, which he did in a few days afterwards, and improved so far that he already can walk a considerable distance without pain and fatigue, while before much pain was experienced at the ankle-joint.

Case XLII. *Congenital inverted club-foot of the right extremity.*—Cyrus Vandivort, of Cranberry township, Butler co., Pa., aged twenty months. His uncle is affected with the same deformity. We divided, June 16th, 1840, the *tendo-Achillis*, *tibial. antic.* and *postic.*, through two incisions of the skin; commenced extension twenty-four hours afterwards, and continued it during five days. The foot being restored, the counter-extending shoe was applied, and the patient left us on the eleventh day from the operation.

Case XLIII. *Congenital inverted club-foot of both extremities.*—William Douglas, twenty-nine years of age. Operated on May 15th, 1840, by dividing the *tendo-Achillis*, *tibial antic.* and *postic.*, *ligam. annular. anter.* and *intern.*, *flex. pollic. long.*, *flex. digit. commun. brev.* with the *aponeurosis plantar.* (four tendons, one muscle, and three ligaments) on each extremity. Forty-eight hours after the operation, extension was commenced and continued during thirty days, when the feet, being restored to their natural shape and position, the counter-extending shoe was applied. He was permitted to use his feet, and fourteen days afterwards he was able to walk on the sole of his feet. There is not the slightest inclination of his toes. Eight weeks from the time the operation was performed our patient left us.—*Remarks.* The *inclination* of the toes in club-foot depends on the greater or less twisting of the foot, and contraction of its muscles and ligaments, on the abnormal mobility of the knee-joint and on the habit of the patient; but after the restoration of the foot is effected, it is attributable to the ankle-joint not being sufficiently pliable, and the inner side of the foot not being on a level with the outlet. The patient inclines his feet, in order to dispense with the imperfect motion of the ankle-joint. If this, however, is perfectly free as in a sound foot, if the inner edge of the foot is on the same level with the outer, the patient will easily overcome the habit of turning in the toes.

Case XLIV. *Phalangian club-foot of the left extremity*, with subluxation of the knee inwards, from paralysis of the *extensor commun. digitor. long.* and *musculi peronei.*—William Denny, of this city, twelve years of age, was born healthy, but lost the power of motion of the left extremity after a febrile attack, which was however restored, but was attended by contraction of the muscles of the back and inner part of the leg. The heel is raised from the ground about five inches, the ball of the big toe is the only support of the body. The knee inclines much inwards, and walking is very painful and tiresome. At the same time a contraction of the muscles of the right eye, producing *squinting*, took place. Operated upon May 20th, 1840, by dividing the *tendo-Achillis*, *tibial. antic.* and *postic.*, *ligam. annular. anter.*, *flex. commun. digitor. brev.* with the *aponeurosis plantar.* and *flex. pollic. long.* (four tendons, one muscle, and two ligaments). Twenty-four hours afterwards extension was commenced, and continued for twenty-five days. The counter-extending shoe was applied, and two weeks afterwards the patient walked well, with comfort and ease.

Case XLV. *Congenital inverted club-foot of both extremities.*—John Haller, of Lebanon co., Pa., aged eighteen months. The deformity is slight; we divided June 13th, 1840, the *tendo-Achillis*, *tibial. antic.* and *postic.*, and restored the foot in ten days. He left us after a stay of five weeks in this city.

Case XLVI. *Congenital inverted club-foot of both extremities.*—Daniel O'Connell Kinney, of Nashville, Tennessee, aged three years. The case is a very bad one, the right foot is more deformed than the left. On July 7th, 1840, the *tendo-Achillis*, *tibial. antic.* and *postic.*, *ligam. annular anter.* and *deltoid.*, *flex. pollic. long.*, *flex. digitor. com. brev.*, and *aponeurosis plantaris* were divided through three incisions of the skin on each extremity (four tendons, one muscle, and three ligaments). Forty-eight hours afterwards extension was commenced. His feet are nearly straight (July 20th), and we intend to apply the counter-extending shoes after a few days.

Besides these cases operated on, we have attended to twenty-three other patients, presenting a commencing deformity of the feet, and which would have ended, no doubt, in structural contraction of some of the muscles, but for the timely application of a proper shoe. Ten cases were congenital, the remainder originated from sprains of the joint or weakness of the extremities consequent on infantile disorders. Eighteen cases were inverted club-foot in its commencement, eleven of the right, and seven of the left extremity; five were everted club-foot, three of the left, and two of the right foot.

Case LXX. *Contraction of the muscles in the ham and everted club-foot of the right extremity*, from paralysis of the motor nerves. Susan Savacool, of this city, eight years of age. When nine months old the right extremity became paralysed during dentition. Walking was out of question, and she had to resort to the use of a crutch.—*Present state.* The affected extremity is withered, sensation is perfect, but the power of motion is wanting. The knee-joint forms a right angle, and the contracted muscles in the ham do not allow of any extension. The muscles performing the motions of the hip-joint are under the control of the will. The tendo-Achillis is much shortened as well as the peronei muscles. The os femoris and tibial are somewhat shorter than those of the other extremity. We assured the parents, who were anxious to have the deformity remedied, that the operation would restore the knee and foot, but it was not calculated to restore the power of motion. Although this should be the case, the girl would still be able to walk with *a cane* after the operation, and in this respect would be much benefited. We operated on her August 16th, 1839, (present Dr. N. A. M'Dowell) by dividing the *semi-membranosus*, *semi-tendinosus*, and *gracilis*, and both *capita* of the *biceps muscle;* on the foot we divided the *tendo-Achillis*, and both *peronei muscles.* The extension immediately afterwards could be carried to its normal extent both on the foot and knee. Twenty-four hours afterwards we commenced extension, and continued it during eight days, when the extremity was straight; the difference in length, however, between both being one inch. We kept on the apparatus for eight days longer, and substituted then the counter-extending shoe, to which a support for the knee-joint, was attached. The extension went on without suffering. Our patient commenced, supported by a cane, to step on her foot, and to walk about, and has continued so, but the power of motion has not returned. There is yet some chance that under a continued treatment this also might be recovered.

Case LXXI. *Contraction of the ligamentum patellæ of the left knee* from inflammation. Albert S., an athletic young man, born in the state of Delaware, thirty years of age. Twenty years ago he suffered a distortion of his knee-joint, which inflamed, suppurated, and exfoliated a considerable portion of bones above both condyles of the femur. The extremity was useless for nearly two years and was kept in the extended position.—*Present state.* The knee-joint is extended and only allows of limited flexion from the contracted state of the ligam. patell. and the aponeurotic expansion of the cruralis and rectus femoris muscle. There is a feeling of tension and tightness both above and below the patella, when an attempt is made to bend the joint. No pain, however, is present; the extremity being as strong as the other, though less muscular. Patient was anxious to have the use of the joint, the extended position of the limb being very disagreeable to him when sitting and walking. We promised success provided attention was paid to keep the joint pliable for some length of time after the operation. November 18th, 1839, we divided the *ligament. patellæ*, beneath the skin without a single drop of blood (present Dr. G. Bruce, of this city). Forty-eight hours afterwards we commenced flexion, and continued it gradually during three weeks, when the leg was at a right angle with the thigh. There was felt tightness and stretching in the lig. patellæ, and on both sides of the joint. We would have carried the flexion farther, but the patient being gratified with the success, wanted us to desist. The knee was kept flexed for a week longer, and then extension and flexion were alternately allowed, but we insisted on him to have his knee bent during the night for at least half a year. December 21st, he left us being already able to use the knee-joint: there remains, however, a degree of tenderness in it. We saw him some months afterwards; the result of the operation was the same, tenderness nearly gone, and the strength of the joint rapidly recovering.

CASE LXXII. *Contraction of the right knee-joint* after white swelling. Henry Parmer, a native of Germany, twenty-eight years of age. Fifteen years ago scrofulous inflammation attacked his knee, with suppuration and exfoliation of some portion of the condyles of the femur. The joint contracted gradually, and he was obliged two years afterwards to use a wooden stump to enable him to walk.—*Present state.* The knee-joint is contracted to a right angle, but no pain at all is present. December 16th, 1839, we divided the *semi-membranos.*, *semi tendinosus*, *gracilis*, and both *capita of the biceps*, commenced extension forty-eight hours afterwards, and continued it during eighteen days, when the joint was straight. He kept the knee extended for two weeks longer, after which extension and flexion were alternately allowed. He could bear his weight on it a few days afterwards, and is since walking about, the extremity being one inch shorter than the other.

CASE LXXIII. *Contraction of the left knee* from rheumatic pain. George S., born in the State of Ohio, twenty-six years of age. Four years ago a severe attack of acute rheumatism confined him for some months, in consequence of which the left knee contracted so much, that only the tip of his big toe touched the ground. He had to resort to a crutch. We divided the same muscles as in the former case. February 23d, 1840, commenced extension forty-eight hours afterwards, and continued it during fourteen days. Four weeks after the operation the use of the foot was allowed, assisted by a cane, and after two weeks more he left us highly gratified with the success.

CASE LXXIV. *Contraction of the adductor muscle and the fascia of the left femur*, resulting from chronic inflammation of the fascia femoris after contusion of the hip-joint.—Mary Laube, of this city, six years of age. Four years ago she suffered from a fall on the hip-joint, which did not entirely prevent her from walking, although the joint was painful and swollen. The case was mistaken by an inexperienced practitioner for fracture, and she was accordingly confined to the recumbent posture for four weeks, although a highly respectable physician who saw the case pronounced it as contusion of the joint without any fracture. When released from her bed, the extremities became gradually shorter, so that she is now walking only on the tip of her toes. The contraction of the fascia femoris and the adductor muscles is very striking, and the case bears the characteristics we have given of this deformity. February 27th, 1840, the *fascia* and *adductor longus* and *sartorius muscle* were divided near the groin, and extension with abduction commenced twenty-four hours afterwards. After two weeks' extension the extremity had been lengthened to its full extent, and a week afterwards she was allowed to walk about, although constantly wearing at night and the greater part of the day the counter-extending apparatus attached to the shoe. The femur can now be abducted as much as the other.

STATISTICAL TABLE.

	Cases of club-foot.	Congenital.	Acquired.	Double.	Single.	Males.	Females.	Mixed deformity in the same case.	Inverted club-foot.	Everted club-foot.	Phalangian club-foot.	Calean club-foot.	Hereditary disposition.		Several children in one family.	Simultaneous contraction of other muscles.	
													father's family.	mother's family.		squint'g.	contract. of knee or other muscles.
Martin has observed	61			26	35 right 18 left 17	45	16										
Bouvier has reported	80			32	48 right 20 left 28	36	24										
Held has reported	31			19	12 right 20 left 11			1 foot inverted, the other colean.							6 chil'n in the same family.		
Scoutetten has reported	21	15	6	9	12 right 7 left 5	13	8								2 chil'n in one family.		
Mütter has reported	28	21	7	16	12 right 8 left 4	19	9		19	2	7						
W. J. Little has reported	35	15	19	8	26 right 16 left 10	26	9		21	1	19	1				1	1 club hand. 3 cas. with contr. of the muscles of thigh.
Detmold has reported	167	125	42	93	74 right 41 left 33	98	69		230	11	17	2	18	1	6 families had several children.	7	
Walter has observed	84	58	26	52	32 right 26 left 6	50	34	1 foot inverted, the other everted.	120	double 1 single 10 right 4 left 6 12	4		1	2	2 families had several children.	1	1 contract. of the knee. 1 club-hand. 2 with contract. of other muscles of the body.

Besides these cases operated on, we have performed tenotomia for wry-neck *twice*, for contraction of the elbow we have divided the biceps brachii in *two* instances. We have severed in *two* cases the flexor digitorum, manu sublimis for contraction of the hand; in another case the *flexor carpi radialis;* six flexor tendons of separate fingers; seven flexor tendons of separate toes, and five extensor tendons of separate toes.

We have repeatedly heard of our patients residing at a distance, all are doing well; and we conclude these remarks with expressing an opinion, that there is no operation on the records of surgery which in so short an existence has conferred so much benefit to community.

Pittsburgh, *July* 20*th*, 1840.

A NEW MODE OF ASCERTAINING THE DIMENSIONS, FORM, AND CONDITION OF INTERNAL ORGANS BY PERCUSSION.

BY G. P. CAMMANN, M.D., AND A. CLARK, M.D.*

We should be glad to insert the whole of this interesting article, as we find it in the *New York Journal of Medicine and Surgery* for *July* last. Our selections will be in the language of the ingenuous authors themselves.—*Ed. Eclectic Journ.*

" Many of the laws of inanimate nature, modified in some cases by vital action, have important applications to the human frame; and it would be a task no less pleasing than instructive, to review the history of medicine in its connection with the natural sciences, and to show how much of its present advancement it owes to the philosopher. But it is not now our intention to explore so wide a field; we propose rather to confine ourselves to an inquiry regarding the applicability of some of the laws of sound to the more satisfactory diagnosis of certain forms of disease.

" Percussion, as taught by Avenbrugger 80 years ago, and as practised at the present day, addresses itself mainly to two classes of physical laws, viz., those which govern the *degree of sonorousness* in different bodies; and (though of less frequent and less important application, still deserving to be enumerated,) those which control the *different tones* of sound. To these facts, then, sonorousness and tone, we shall first direct our attention, and hope to show that by a new method of study, they are capable not only of rendering the knowledge we at present derive from them more distinct and certain, but that of themselves, or by the aid of laws to be hereafter enumerated, they will enable us to establish distinctions in the forms and nature of diseases, hitherto not attempted, or attempted with but partial success.

"Air is a good conductor of sound, but by no means the best with which we are acquainted. A vibratory wave communicated to it from most sounding bodies, undergoes divisions and subdivisions infinitesimal, and is propagated in all radial directions nearly equally, so that the ear at a moderate distance will receive but an extremely small portion of the vibrations. Thus, of the sound elicited by ordinary percussion on the human body, a thousand parts, perhaps, are diffused and lost for one apprehended by the listener. But could we receive the sonorous pulses on one end of an elastic, homogeneous solid, little would be lost by radiation, and most would become audible at the other extremity. And although we may, in this way, catch and conduct the vibrations from a small surface only of the sounding body, say no larger than the orifice of the ear, yet experiment shows that we gain much in clearness and intensity. Place one extremity of a cylinder of wood cut in the direction of its fibres, evenly on the body, over the region of the liver, or on the anterior surface of the tibia, and apply the ear to the other. Now, let a person percuss in the usual way on the same region, or along the bone, within one or two inches of the point on which the cylinder rests; the sound communicated to the ear is intense, and even painful, very far exceeding in energy the same vibrations entrusted to the free air. Let the observer compare the bone and the liver, when their constituent particles are thus thrown into sounding vibrations, he will find, what from ordinary percussion he would have little reason to expect, that they greatly differ, both in degree of reasonance and in tone. The latter exceeds in sonorousness, the former sounds on a higher note. Corresponding differences will be found to exist if fluid confined in the chest or abdomen, be compared with one or other of these parts; and in general, it may be assumed, that whenever the media compared differ in mechanical and chemical structure, there will be differences in these two respects; differences most easily recognised by comparison, yet in many cases, susceptible of separate recognition.

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* The authors express their obligations to Dr. C. L. Mitchell of their own city, for the important aid rendered us in collecting the materials for the following Essay.

"But associated with these, are differences in other qualities and accidents of sound, equally, or even more marked. The observer, suppose, practises first over the heart, listening and percussing on the same region. With each blow of percussion, the ear receives a sudden, clear, intense sound of high tone, attended with a degree of impulse even painful, appearing to be immediately under the instrument, or produced within it; of short duration, and ending with some degree of abruptness. Now, find the longest diameter of the heart in contact with the walls of the chest, it may be three inches, listen at one extremity and percuss at the other. The sound is the same in character, and it has lost little of its energy. Percuss at the point where the lung begins to overlay the heart; the sound is instantly modified and mixed, yet its cardiac type is still preserved. Recede still farther with percussion, moving by short steps toward the body of the lung; at a certain point the sound suddenly changes. It loses its intensity and high tone, is no longer impulsive, but is grave and distant, much more distinctly heard by the open ear, than by that applied to the instrument. Again, let the observer in like manner explore the hepatic region. Within short distances, the sound is sudden, clear, intense, and immediately under the instrument as before: yet it is less intent, less acute, and more prolonged; it is even semi-reverberant. As he increases the distance between the points of auscultation and percussion, the sound diminishes more rapidly than over the heart, though it is not entirely lost till percussion passes off from the organ, on to another medium. By this mode of exploration, the heart and liver become distinguishable through a class of signs, which, judging even from the analogous consistency of these organs, would not be supposed to exist. Still the differences we have described depend on fixed laws, and must be constant."

After some observations on the laws of sound, Drs. Cammann and Clark continue as follows:

"But it is fully time we had opened our plan, and shown more at length to what practical issues we are tending. We propose, then, in the application of the laws now enumerated,

"1st. To measure the heart in all but its antero-posterior diameters, under most, perhaps all circumstances of health and disease, with hardly less exactness than we should be able to do, if the organ were exposed before us.

"We have been able to trace the outlines of the heart, when the whole organ has been covered with healthy lung; when the lung over it, and around it has been hepatized with inflammation, or consolidated by tubercles; when with such turberculous consolidation there has been remarkable thickening of the pleuritic membrane over the precordial region; when pleuritic effusion on either side has, to ordinary percussion, blended the cardiac and pulmonary portions of the chest into one region of unbroken dulness; when extreme effusion on the left side has crowded the heart wholly to the right of the median line upon the convex surface of the liver, so as to produce uninterrupted dulness, from the entire left side, across the anterior right half of the chest, to the hepatic region; when there has been empyema and pneumothorax of the left side; when there has been atrophy of the heart; when there has been hypertrophy and dilatation, each separately, and both combined; when there has been preternatural softening and fatty degeneration; when there has been pericarditis with adhesions;* when the stomach has been filled with aliment, or the abdomen with fluid.

"2d. To trace the outlines of the liver with much greater certainty than by ordinary percussion, in circumstances of health; and to circumscribe it in many conditions of disease in which ordinary percussion is not applicable.

"We are able to follow the liver nearly an inch higher on the chest, where its convex surface gradually retreats from the thoracic walls, than is usual in ordinary percussion; to trace its left lobe, and its lower border to the extreme limits of their thin edge; to distinguish the liver from the heart when these organs come in contact, whether the stomach be full or empty; to limit the upper surface of the liver when the right lung is hepatised; or when there is effusion in the right pleura; to limit the lower thin edge in the serous effusion of ascites; to mark the line of separation between the liver and spleen when the latter is enlarged, and the two organs are in contact.

"3d. To ascertain the dimensions of the spleen in circumstances that baffle ordinary percussion.

"We have traced the outlines of the enlarged spleen, in the midst of abdominal serous effusion,—distinguished it from the liver when it has approached, or been in contact with that organ: and we shall probably be able to limit it in all cases, except when abdominal effusion or a fold of intestine passes between it and the abdominal walls; and even in these cases, if there be a single point of contact on which to rest the stethoscope.

"4th. To mark the superior, inferior, and external limits of the kidneys. Ascites presents no obstacle to the measurement of these organs; and from enlarged spleen the left is easily distinguished."

Relatively conducting Power of different Organic Parts.—"Of so much have we assured ourselves by repeated trials. But it may be well, besides, to enumerate in passing, certain facts which have resulted from experiments on the dead, and observations on the living body; at present of more value, perhaps, as guides to farther inquiry, or as complicating in some cases the study of organs, than as practical results. We find, for example, that among the tissues of the body, bone is the best conductor of sound; that cartilage is but little inferior to bone in this respect; that muscle when tense is a good conductor,—relaxed, it hardly conducts at all; that fatty tissue uncondensed conducts badly; that œdematous cellular tissue has a minimum conducting power; that any tissue or group of tissues under tension conduct better than when relaxed; that the spinal column is a bad conductor; that both sound and impulse are transmitted from one bone to another, through interposed soft tissues, if such tissues be condensed by moderate pressure; that articulations in a healthy state conduct both sound and impulse, but with loss of energy; that sound and impulse are not entirely lost in passing through two successive articulations; that fractures and dislocations do not in most cases wholly interrupt the conduction of sound; and that the sound is more intense than natural in passing through certain diseased joints."

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* Auscultatory percussion promises to distinguish with facility serous effusion into the pericardium from any form of disease of the heart itself. But it is remarkable that more than three month's search among 1700 Dispensary patients, and even a greater number of Hospital sick and Almshouse invalids, which we were permitted to examine by the politeness of Dr. Vache, should not have furnished us one case of hydro-pericardium.

"We pass now to the comparative study of the sounds furnished by certain parts and products of the body, with the view of establishing them as type-sounds, with which to associate or contrast others. We may assume for this purpose, those furnished by water and by bone as the extremes in the scale, and call them, for convenience, *aqueous* and *osseous.* Of these the osseous, as has been already more than hinted, is the most highly characterized, and most easily distinguished from others, in pitch it is highest; in energy it is intense, striking on the ear with even painful force; in quantity full and loud; conducted to the greatest distance; somewhat prolonged and slightly ringing, immediate, clear, and impulsive.* A watery fluid within the abdominal, but especially within the thoracic walls, seems to transmit through those walls, very imperfectly, its own peculiar sound. Though a good conductor itself, it communicates sonorous pulses to a more solid body with great loss. Hence, notwithstanding it possesses appreciable positive qualities, it is on negative properties that we, to some extent, rest our judgment regarding it. In the abdomen, within short distances this sound is quick, immediate, acute, of moderate intensity, abrupt, inelastic, and much less conductible and impulsive than the preceding. In the chest its characters are with difficulty distinguished. Indeed, the sounds of fluid, and of healthy lung, examined through the thoracic walls, so nearly resemble each other, that it is probable neither of them is capable of communicating, in any considerable degree, their vibrations to these walls, but that it is chiefly the parietal sound which the ear receives. Hence the ease of distinguishing from fluid in the chest, a solid or consolidated organ—hence also the superiority of ordinary percussion in the examination of the rarer media. The hepatic and cardiac sounds, in most of their qualities, fall between those just described. They have already been referred to at some length, and will consequently now require but a word. *The cardiac* approaches nearest the osseous; it has acuteness, clearness, and conductibility in the tissue producing it, but in a less degree than that of bone; it is quick; immediate; intense; rather painfully impulsive: and gives, at the circumference of the organ particularly, a sort of muffled metallic ring. *The hepatic,* compared with the cardiac, is more grave, more continuous, less freely conducted by the organ in which it is produced; but is clear, intense, immediate and impulsive. With one or other of these sounds, it may be convenient to compare all other sounds that we may have occasion to study. It will be seen that they have many properties in common, while each possesses characteristic qualities. Water in the abdominal cavity is distinguished by quickness, abruptness, and a sort of leaden inelasticity—bone by its high pitch, clearness and great conductibility—liver by its graver note, diminished conducting power, and semi-reverberency; while the heart falls between the two last, and is recognised more by the degree, than by the distinctive nature, of its qualities. The sounds of healthy lung, of tympanitis, and of pneumothorax, differ indeed widely from any here described, but we leave them to ordinary percussion, since their vibrations are much more fully conducted by air, than by a solid medium."

Instrument for Percussion.—"It has been already sufficiently explained that the leading peculiarity of our method consists in the manner of conducting to the ear the sounds elicited by percussion of the solids of the body. The instrument we have found most convenient, and most generally applicable, is a solid cylinder of cedar, shaped in the direction of the woody fibres, 6 inches in length, and 10 or 12 lines in diameter; furnished with an earpiece which will allow nearly the whole cylinder to pass through it, so that it may apply directly to the tube of the ear without change of medium. To avoid as much as possible the sound of the thoracic walls, as is desirable in some cases, this instrument has been modified, by reducing it at its objective extremity, to a truncated wedge, leaving the other extremity as before. This is applied between the ribs so as not to touch them, and at the same time approach somewhat nearer the object under examination. The common stethoscope may be used, but it conducts less perfectly than the solid instrument, and for obvious reasons. The question whether the bones around the ear conduct, or assist in conducting the sonorous pulses to the auditory nerve, however important in other relations, need not here be examined. It is sufficient for our purpose, if experiment prove that these instruments give us the fullest perception of the sounds we wish to examine.

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* For the sake of conciseness and perspicuity, we will use the following terms in describing sounds only in the senses here annexed to them. *Immediate,* to signify that the sound comes to the ear as if applied directly to the extremity of the stethoscope; opposed to distant. *Abrupt,* [abrumpo, to break off,] to refer to the termination only; opposed to prolonged, reverberant, &c. *Distant.* It often happens that a sound is heard by the open ear alone, or by that applied to the stethoscope, only when the other is closed by the finger. No impulse comes with it, and it is plainly produced in some body foreign to that on which we are listening; opposed to immediate, intense, impulsive, &c. *Quick,* to signify the same as when used with reference to the pulse, describing the time occupied by the sound in developing itself. *Acute,* to refer to the place a sound has in the diatonic scale; opposed to grave. *Impulsive,* to describe the shock or jar, of which the external ear mainly takes cognizance, as possessing the sense of touch. The shock or impulse accompanying sound so limited, is not in all cases proportioned to loudness, or intensity.

Regarding percussion, we find a pleximeter in the examination of thoracic and abdominal organs almost indispensable. An impulse is to be sent through an external covering composed of separate layers, to a viscus beneath. This impulse loses little by the interposition of light solids, but much if loose or badly approximated tissues intervene. It is then desirable that the tissues of the thoracic or abdominal walls be consolidated as much as is practicable. This indication is conveniently fulfilled by moderate pressure with a finger of the left hand, while this same finger serves sufficiently well as a pleximeter. The same consolidation and full contact is still more important at the point where the sonorous vibrations are to be received upon the stethoscope, but this is easily effected, and almost without the design of the listener, by the pressure necessary to apply the aural extremity of the stethoscope firmly to the ear."

Measurement of the Heart.—" We come now to speak of the measurement of the heart; and shall devote to this branch of our subject the remainder of the present essay, both because, to be able to measure with accuracy the heart in the living body has long been considered a desideratum in our art; and because the facts with which we can enter on the examination of this organ, we think, cannot fail to demonstrate the practicability of our method. The lines we have chosen in our measurement may be objected to. We are willing to admit that the distance across the base, and that from the apex to the base would be serviceable additions. But we assert from numerous inspections, made for the purpose of learning the position of the heart in the dead body, that when disease is suspected, (and such is the case with most hearts we are called on to examine,) it is impossible to know the base line, previous to tracing the entire circumference of the organ. Its direction varies in health, much more than in disease."

Mode of taking the Diameters.—" At once to illustrate the mode of taking these diameters, and to apply what appeared to us the experimentum crucis to many of the foregoing rules and principles, we will describe one of our earliest observations on the dead body."

Heart, first trial.—" Body, that of a well-informed man about 60 years of age. The precordial region was first examined by ordinary percussion, and the heart circumscribed as nearly as possible in ink lines. The stethoscope was then placed in the centre of this region, and percussion applied over what was already recognised to be the heart. The cardiac sound was full and distinct. Percussion was then applied at a distance from this centre, off from the heart, and made to approach it gradually in the line of a radius. This was done for each extremity of the four diameters. Wherever in the approach a sharp percussion sound was heard accompanied with a muffled metallic ring, there a mark was made on the chest. The exploration was repeated two or three times by the three persons present with strict coincidence of result; and the marks were united with ink lines. Thus we had drawn two nearly circular figures, corresponding at their lower limits, but the first nearly an inch within the last at all other points. Much difficulty was experienced in distinguishing the heart from the liver, in the direction of the lower limb of the left oblique diameter. The liver and heart were evidently in contact; the sound of percussion on the former was conducted with unexpected force to the stethoscope placed on the latter. After repeated attempts, however, in approaching with percussion from the liver, we recognised at a certain point a change in the sound, it becoming more acute and more impulsive; receding from the stethoscope, beyond the same point the sound was more grave and less intense: now placing the instrument on the liver, and approaching it from the heart, or receding from it to the heart, strictly corresponding changes were noticed at the same point. That point was fixed on as the limit of the heart. Eight long steel needles, (common knitting needles,) were now inserted in the circumference of the outer circle, so as to correspond with the extremities of the four diameters, and driven at each point perpendicularly to the surface of the chest at that point. The precordial region of the thorax was then removed by a circular cut, within the circle of the pins; when it was found that every pin had either entered the pericardium, or had passed less than a line outside of it. Four passed through it, just touching the heart, one only had penetrated the organ, and that was at the upper extremity of the right oblique diameter. It had entered the right auricle, half an inch from its upper right border. The heart was very much enlarged, and the right auricle distended with blood. It is important to add, that the pins on the left side passed through a skirt of lung which overlaid the heart two inches; and that at the apex, penetrating more than an inch of this lung, entered the pericardium, and was found just touching the heart. The dimensions of the heart *in situ* were, vert. diam. 4 9-12,—trans. 6 10-12—right oblique, 6 9-12, and left oblique, 6 6-12 inches. Such was the result of our first experiment, without any previous knowledge of the cause of death, or the condition of organs."

Cautions in Percussions.—"Here it will be proper to remark,—first, to get the full characteristic sound of the heart, it is indispensable that the stethoscope be placed on a part of the chest, with which the organ comes in contact; and we insist upon this point, because we wish to forewarn those who may pay our method the compliment of a trial, that should their first case be one in which the lung nearly or quite covers the heart, they may be unable strictly to verify our description. Yet a little practice with good cases will enable them to measure the organ with great facility, not only in such a case, but in every normal or abnormal condition in which it is likely to be found. Second, the difficulty of distinguishing the right lower limit of the heart from the liver is of frequent occurrence, and is to be attributed, as has been already said, to the fact that the two organs differ but little in consistency, and that their fundamental sounds vary but two notes and a half on the diatonic scale. Hence if they lie in contact, as often happens, the sounds produced in one are communicated to the other with but moderate loss. Yet in the transmission from either viscus to the other, it undergoes a change from acute to grave, and loses some of its impulse. A little practice will overcome the difficulty; but we advise that, in all the earlier cases when it occurs, the observer should explore from each organ. Third, (for we think it well to bring together into one paragraph, all the circumstances that may embarrass the examination of the heart, whether pertinent to the case before us or not), it sometimes happens that it is difficult to limit the right side of the heart, on account of the presence of the sternum. This appears to act as a large pleximeter, and to diffuse the force of percussion, directing upon the heart a portion of that which was intended for the region beyond it. This, however, is an inconsiderable difficulty, if separated from another with which it is usually complicated. We refer to the sonorousness of the sternum. This, when it is considerable, is conducted along the cartilages of the ribs to the stethoscope, and masks the true cardiac sound. The remedy however is simple. By using the wedge between the ribs, instead of the cylinder upon them, we exclude the osseous sound. In this way we commonly obviate both difficulties together. Still it may be sometimes necessary for the confirmation of a doubtful limit, to place the stethoscope over upon the right lung, and mark the point on the side of the heart at which we first obtain the thoracic sound. Fourth. Care is often necessary, that the conducting power of the ribs does not embarrass the exploration of the left side of the heart. It sometimes happens, if we listen and percuss on the same rib, that the osseous sound comes up so full and strong to the ear, as to conceal the cardiac. The remedy is simple. Move the stethoscope, if there be a sufficiently wide space of contact between the heart and walls of the chest; if not, use the wedge. Fifth. We have met persons in whom the whole precordial region was to ordinary percussion, peculiarly sonorous, from pulmonary emphysema. In such our method is difficult of application, on account of the fulness of the parietal sound. But if we press the stethoscope with considerable firmness against the chest, so as to depress a little the cartilages of the ribs, and thereby condense in a small degree the lung, (which can be done without giving pain,) or use the wedge between the ribs, we overcome the difficulty. It is well in addition, to percuss with somewhat increased force. Sixth. The position of the heart changes in its lateral dimensions, with changes in the position of the body. It gravitates towards the side on which the patient may be lying; so that between decubitus on the right, and on the left side, there may be a deviation to one side or the other, of nearly an inch. Again, the mobility of the integuments of the chest, in obedience to motions of the arms or head may lead to error. Hence an obvious rule, that during the examination the patient preserve as nearly as possible one position. Seventh. The breast in females need not be considered an obstacle to the measurement of the heart. It may be held aside either by the left hand of the patient herself, or by a bandage; or if neither of these can be done, pressure on the part with the finger used as a pleximeter, will enable us to explore as in any other case,—only in this, it will be well to mark first the right limits of the heart, and when the left are found, to measure each diameter in its turn before the finger has been removed. And lastly, we remark, that percussion *may be* too strong, so as soon to fatigue and confuse the ear. It should be usually performed with a single finger, and may be so feeble as to be scarcely audible to a bystander. These remarks will render lengthened details in reporting further experiments on the mensuration of the heart, unnecessary; and for this purpose they have been here embodied."

We pass over the enumeration of detailed trials on several dead bodies by the authors, and come to their experiments on living subjects:

"Thus much for the dead: and now it may be asked, What can be done in the living body? We prefer to answer by a detail of facts. The first class of cases that we will present are five in number, arranged in tabular form. The measurement of hearts taken by auscultatory percussion, in the course of chronic incurable diseases, is exhibited; and in parallel lines are shown the diameters of the same organs, taken at post-mortem inspection of the body, one to eight weeks afterwards. At first view, post-mortem measurement would seem a proper test of the correctness of that made during life. But a moment's reflection will show that in any individual case, it can be of little value. During life, the heart in its natural action is continually changing form, and, by auscultatory as by ordinary percussion, (if it is indeed possible to ascertain its dimensions by the latter,) diastole is probably the condition from which the diameters are taken. We are seeking the heart at any one point of its supposed circumference; we explore by percussion repeated on that point two or three times. Should either one of these blows give us the cardiac sound, we mark the spot, if by examining farther outward in the same way we have not found it. Now, as diastole and the state of quiescence together occupy so large a portion of time in the circle of the heart's action, there is a probability that the organ will be under the finger, placed within the sphere of its usual expansion, at the time of the first blow of percussion, and this probability increases with each blow repeated in quich succession. Again, if the circles of habitual systole and diastole were marked upon the chest, we should probably find it difficult to make even two successive blows upon the outer circle, in the time the heart is absent from it in systole. To say the least, a little care will enable us to take the organ in its usual greatest dilatation, while it would be very difficult to ascertain its dimensions in systole. If, then, we measure during life, in healthy diastole, it is plain, that to find corresponding dimensions after death, we must seek a corresponding condition, as contrasted with emptiness on the one hand, and with passive and forced congestion on the other. Yet every pathologist knows that this equal and moderate distention of all the cavities is not the most common post-mortem condition; however near an average of the ever-varying state of different parts, taken from a large number of cases, might represent it. The remarks appended to the following table will illustrate this point.

Table Showing the Dimensions of Five Hearts, as taken before and after death.

	Measurement before death. DIAMETERS.				Interval between meas't & death.	Measure't after death, in inches and lines. DIAMETERS.				Cause of death.	Blood in the Cavities.
	Vert.	Tran.	r.obl.	l.obl.		Vert.	Tran.	r.obl.	l.obl.		
No. 1.	3.11	4.2	5.	3.10	4 wks.	4.6	4.	4.11	3.11	Phthisis.	Right Cavities distended, left empty.
No. 2.	4.	5.	5.2	4.6	1 wk.	4.	4.11	5.4	4.5	Phthisis.	All the Cavities moderately distended.
No. 3.	3.10	4.	4.2	4.	8 wks.	3.10	4.	4.10	3.5	Hæmop's in the progress of Phthisis.	Ventricles contracted and empty; blood in the right auricle.
No. 4.	3.6	4.6	4.3	4.1	5 wks.	3.	4.3	4.1	3.6	Phthisis.	Ventricles firmly contracted; a little blood in the right auricle only; apex elevated.
No. 5.	4.6	4.7	4.10	4.3	1 wk.	4.6	4.6	5.9	4.3	Erysip's in the course of hepatic and cardiac disease.	Right auricle crowded with blood; vent. and left cavities contained but little.

We remark of these cases, that in the second only, is there are anything like a correspondence of diameters as taken before and after death; and in this it is noted, that each of the cavities contained a moderate quantity of blood. In the first, the vertical diameter, more than half of which lies usually on the right ventricle, is lengthened after death by the passive distention of that cavity. In the third, the right oblique diameter is augmented by engorgement of the right auricle; while the left oblique is shortened more than half an inch by the contraction of the ventricles (over which it wholly lies). In the fourth, the point of the heart being more elevated, the verticle and left oblique are also shortened by firm contraction of both the ventricles; and in the fifth, the right oblique is again extended by forced dilatation of the right auricle. So in none of these cases have we a strict correspondence of dimensions. An error of a line or two may result from using the finger as a pleximeter, on account of its width. And the size of the heart may even vary somewhat, in different states of health, during life.* Yet with all the allowances and corrections that can be made, it is obvious, independently of any measurement, that the dimensions of a heart in healthy action, will vary from those of the same heart, after death.

Abandoning this ground then, we appeal to averages. And here again an objection meets us:—the frequent post-mortem congestion of the right cavities, and particularly of the auricle. Still, with a fractional correction for this fact, we are willing to rest the practicability of our method on a comparison of the means, derived from auscultatory and post-mortem measurements. And first, let us see how nearly an average will annihilate individual differences in the above five cases.

* See Piorry's case, Procede Operatoire, &c. p. 121.

	Vert. Diam.	Transv. D.	Rt. Obl.	Lt. Obl.
Dimensions of the living heart by auscultatory percussion, ...	3.11 +	4.5 +	4.8 +	4.1 +
Dimensions of same organ by post mortem inspection, ...	4.—	4.4	5.—	3.11

The deviation is trifling, except in the right oblique diameter, where it is less than four lines.

Now, for the purpose of obtaining a criterion of comparison, we will present twelve additional measurements of men's hearts taken after death, rejecting all in which there was, either during life or on post-mortem inspection, any evidence of disease; and deduce from them an average for the healthy male heart."

Omitting the tabular details under this head, as also those of twenty-four male hearts believed to be perfectly healthy, taken by auscultatory percussion, we shall content ourselves with the averages given as follows:

	Vert. Diam.	Transv. D.	R. Obl.	L. Obl.	Total.
Post-mortem measurement of 12 hearts,	4.	4.4	4.10	3.10	17.
Measurement during life by aus'y percussion, of 12 hearts, ...	4.3	4.1	4.8	4.1	
Do. - - - - of other 12 hearts, ...	3.11	3.11	4.5½	4.1	
Do. - - - - of 24 hearts,	4.1	4. +	4.7	4.1 +	16.9 +

"So far we think the showing must be satisfactory, and we now turn to the female heart. Of these we have but eight in each class. In all the cases in the first of the following tables, as well as in those of table No. 2, the hearts were measured *in situ*, before any organ of the body had been removed or examined. They were exposed by removing the anterior portion of the thoracic walls, and laying aside the lung and pericardium, with the least possible disturbance in the relation of parts."

We have room for some only of the results obtained by the authors of the essay: but they are the final or average ones.

"From this, it will be seen that the female heart is smaller than that of the male, in all its dimensions; the comparison given us as has now been shown,

For the male heart, vert diam. 4; Trans. 4.4; R. obl. 4.10 +; L. obl. 3.10.
" female " " 3.7; " 4.1½; " 4.10; " 3.7.

"Hence the necessity of collecting them into separate estimates; and of comparing the organ in each sex, to the exclusion of all measurements from the other. We have therefore prepared a fifth table to be the counterpart of that just given, showing the dimensions of eight female hearts, taken in the living body by auscultatory percussion. Hearts showing any evidence of disease have been excluded; in other respects, the cases have not been selected. Whatever of correspondence exists in age and size, therefore, is accidental,—whatever in the diameters of the heart, is necessary.

No.	Name.	Age. yrs.	Stature. ft. in.		Girth of Chest.	DIAMETER.				
						Vert.	Trans.	R. obl.	L. obl.	Total.
1	Jane Mc.	28	5	2	32 in.	3.10	4.2	4.9	3.6	16.3
2	Mary H.	33	5	3½	32	4.	4.3	5.	3.9	17.
3	Marg't M.	24	5		30	3.9	4.	4.6	3.6	15.9
4	Agnes M.	62	5	2	32½	3.10	4.1	5.	3.10	16.9
5	Ann S.	60	5	2	33	3.10	4.	4.9	3.6	16.1
6	Jane M.	20	4	10	27	3.6	3.8	4.4	3.4	14.10
7	Mary Mc.	30	5		29½	3.9	3.10	4.9	3.6	15.10
8	Mary N.	40	5	7	32	3.10	4.	4.6	3.9	16.1
			Average			3.9	4.	4.8½	3.7	16.1.

Thus, then, we find for the female heart, after death,	3.7; 4.1½; 4.10; 3.7=16.+
And for the measurement by aus'y percussion, during life,	3.9; 4; 4.8½; 3.7 = 16.1 —

Such, if our estimates be correct, are the results of comparison. The average aggregate of the four diameters in men, by auscultatory measurement, falls less than three lines short of that derived from measurement by inspection; in women less than one line. We claim, then, to have demonstrated the possibility of measuring the human heart within the thoracic walls, with hardly less exactness than if it were exposed before us; and it will not we hope invalidate our conclusions, that we have been compelled to establish for ourselves a standard of measurement, before our results could be tested. The heart has indeed been most satisfactorily measured for all purposes of post-mortèm investigation; but we know of no attempt to show what are its dimensions in healthy action. These we have sought at the only source of knowledge open to us. Our facts are too few for a large and accurate generalization, but they are numerous enough to secure us from material errors."

Comparative Dimensions of the Heart in Health and Disease.—"Recurring, then, to the aggregates, and examining first the male heart, we have, in one table, a mean aggregate of 16 9-12 inches; in another, 17 inches. We will assume the higher of these numbers, as the most convenient, and perhaps the most accurate. Now the minimum of these tables is 14 11-12, in the dead body; and 15 8-12 in the living; while the maximum is 18 4-12, furnished by two bodies; or for the living 18 4-12. We prefer the latter of these two numbers, as the 18 10-12 inches in both cases, resulted from passive engorgement of the heart. These are the aggregates of health, and the following table will show us what we may look for in disease. It embraces ten cases that were excluded from the preceding estimates, as diseased, or of questionable soundness."

We omit this table, and give the results in the words of the authors.

"Rejecting the first two cases, as affording very doubtful evidence of enlargement, whether examined by the rational physical signs, we find in a large man 58 years of age, signs of dilatation, with 18 8-12 for total of diameters; or four lines more than the maximum of the healthy heart in life, derived from a smaller man. The smallest male heart, found enlarged after death, gives us an aggregate of 19 inches. We then arrive at the following conclusions, viz. 1st, That a male heart whose aggregate diameters exceed 17 inches, must be considered a large heart. 2d, Less than 17, in a person of mean size, there could be little chance of enlargement. 3d, If the aggregate equal 18 8-12, even judging most favourably, the chances of disease are 11 in 12. And 4th, Though a total of 19 inches is a sure indication of enlargement, one of 24 inches is not incompatible with life.

"We pass now to the tables that relate to the other sex. We are required, suppose, to decide whether in a given case increased energy in the action of the heart depends on sympathetic influences, or on hypertrophy of that organ. We have seen that the average aggregate for 16 female hearts, is 16 1-12 inches. Then, in one-half of the number of cases of increased impulse from sympathetic action merely, the total diameters of the heart will be 16 1-12, or within it. But suppose in the case in question, the aggregate exceeds this number. 17 inches is the maximum of 16 healthy hearts, and 17 9-12 is found, in Table VI.

to indicate marked hypertrophy. If then the aggregate in such a doubtful case exceed 17 inches, the presumption is in favour of organic disease; if it equal 17 9-12, the probabilities are fast approaching certainty. But as we have said, our data are insufficient to enable us to fix numbers in any such estimate with certainty. We may find it convenient to resume the subject with more material at no very distant day.

"Here, for the present, will we rest the whole matter. We have attempted to base a new mode of exploration for certain purposes of medical and surgical diagnosis, on philosophical principles; we have pointed out certain conditions, parts and organs, to which these principles of diagnosis are applicable. We have spoken of their relations to many of the tissues of the body: we have shown that they may be usefully applied to certain dislocations and diseases of joints, and to fractures of bones, and have conjectured their further utility to practical surgery; we have declared them competent to the mensuration of all solid or consolidated organs or products, within the thoracic or abdominal cavities, which lie in contact with the walls of such cavity; limiting them, or distinguishing them from fluids, &c.: and we have attempted to demonstrate, (with what success we submit, and crave pardon if with too wearisome detail,) their eminent usefulness in the study of the heart,—and we are prepared to show, though less completely than we hope to do at a future day, the results which may be expected from their application to the study of the spleen, the liver, and the kidneys."

THE CAUSES AND TREATMENT OF STRABISMUS, OR SQUINTING.

SUMMARY OF SEVENTY-SIX OPERATIONS BY MR. LISTON.

Sir:—Since the publication of some remarks on the subject of division of the muscles of the orbit in a late Number of your Journal, I have assisted at seventy-six operations of this nature, performed by Mr. Liston, the results of which may prove interesting to some of your readers. I am, Sir, your obedient servant,

W. R. Ancram.

London, July 14, 1840.

The causes of contraction of the muscles of the orbit appear in several instances to be similar to those which produce shortening of other muscles of the body, and induce deformity in the extremities, as in club-foot, contraction of the ham-string muscles, &c., being dependent on direct or indirect injury or irritation of the nervous system. Under this head may be placed twenty-one of the cases which have been operated on; three being produced by direct injury to the brain, thirteen by the convulsions to which children are liable in early life, and nine by the irritation of the diseases of early childhood, small-pox, measles, and scarlatina. Habit is another rather frequent cause; the eye has been affected by some disease; in the anxiety to avoid the light it has been turned inwards, and permanent strabismus has been the consequence; or a shade has been worn over the eye, the light has been admitted only at the inner angle, and to this point the eye has been constantly directed; ten patients date their deformity from this occurrence. Only four persons have presented themselves who suffered, from their attempts to imitate their squinting companions, by permanent strabismus. Violent exertion, as in hooping-cough, occasioned the disease in five patients; and the action of the muscles of the eye, in looking suddenly at some object, caused a permanent contraction in seven others. Four cases were occasioned by falls. The relative proportion of congenital strabismus is small. I have found only eight who say they were born with the deformity, and in four cases I think that was rather doubtful. From my inquiries into the causes of strabismus, I should say that a far greater number of cases was occasioned by spasmodic contraction of the internal rectus, than by paralysis of the external straight muscle. In a few cases I omitted to inquire the cause of the deformity.

The contraction of the recti muscles varies in different individuals, from the slightest cast, with perfect power of motion, to almost complete immobility and partial concealment of the cornea in the inner angle of the eye. The cornea is most generally drawn simply inwards; in some cases downwards as well as inwards; more rarely upwards and inwards; of course, by the combined action of two muscles. Two patients have also presented themselves where the eye was drawn directly outwards, evidently by a contraction of the external rectus. Both those individuals have been prevented by circumstances from submitting to the division of the abductor as yet; but it is proposed to perform the operation in the course of a few weeks. In a third case the external rectus has been divided, with the same success that attends the more common operation; it presented no greater difficulties than the division of the internal muscle. A most general effect of these changes is diminished power of sight, and this diminution increases in the ratio of the withdrawal and fixation of the cornea from the axis of vision.

The causes which produce strabismus being usually the diseases of early childhood, that is the age at which the affection most commonly comes on. In the greater number of cases the disease has begun previously to the third year, and after that time the liability to the affection appears to decrease with the age. After puberty it is exceedingly rare. Of the fifty-three cases I have examined, one only occurred at the age of fifteen, and one at twenty-five; in the latter case, the strabismus was occasioned by direct injury to the head. As far as I can judge, both sexes are equally liable to this deformity; forty females and thirty-six males having submitted to the operation. The disease does not appear to attack one eye in preference to the other, nearly an equal number of right and left eyes having been operated upon. One case has been treated where both eyes were affected. Age is no bar to the performance or success of the operation. Patients of all ages, from four to sixty-two, have been treated for this affection. A contracted internal rectus, of sixty years' standing, is the most confirmed case in which I have seen this operation performed, it succeeded perfectly. In very young children it would hardly be advisable to attempt the operation when the strabismus was only of few months' duration. The displacement of the eye might depend on some disease of the brain or intestinal canal, which, by attention to the general health, might be removed, and the squint cured without resort to the more violent remedy of division of the muscle.

With respect to the operation, the safest way to secure its complete performance, is to dissect, perfectly clean, the internal part of the ball of the eye, for the slightest fibre of the internal muscle that remains undivided will prevent eventual success. In some instances, after the internal rectus has been cut across, the patient possesses the power of turning the eye a little inwards and downwards; this arises from contraction of the inner border of the inferior rectus. Mr. Liston is in the habit of partially or completely dividing this muscle in all these cases, and this has been done in about ten instances. The only and best criterion of the completion of the operation, is the total inability of the patient to move the cornea towards the inner canthus from the centre of the orbit. If this exist, there is little fear of any return of the distortion of the eye; and to effect this purpose, it will sometimes be absolutely necessary to divide the inner border of the inferior rectus. In four instances the operation has not been perfectly successful; these were all early cases, where, after the division of the internal muscle, the patient still possessed the power of moving the eye somewhat inwards, and before experience had shown the necessity of the division of the depressor. Three of these cases have submitted to a second operation; in all, the inferior rectus has been divided, and the cure is perfect. The fourth, a boy of thirteen years old, is fearful to submit to a second attempt; the eye is drawn downwards as well as inwards, caused, most probably, by contraction of the inferior rectus.

To insure the effect of the operation, the scissors and forceps certainly appear the most effectual instruments; and either for the clear dissection of the inner side of the eyeball, or for division of part of the inferior muscle, they are much to be preferred. By using these, the operator will avoid the danger of doing too little or too much ; he will, on the one hand, make certain of cutting all the tendinous fibres which bind the eye in its unnatural position, and he will run no chance of wounding the sclerotic coat and evacuating the humours of the eye, and thus effectually destroying vision. Ineffectual attempts to divide the internal rectus are common-enough occurrences; and cases have presented themselves where it has been necessary to resort to a second operation. The accident of destroying the organ has also happened, and is not unlikely to occur in the hands of those who go rashly and unskilfully to work.

Although such severe injury is done to the coverings of the eye, it is a rare circumstance to see any inflammation follow the operation. Only five cases have presented any such occurrence ; and in all it was so slight, that the application of a few leeches to the inner angle of the eye soon relieved all the unfavourable symptoms.

A slight ecchymosis occurs under the conjunctiva, and may continue for some weeks, even after that membrane is entirely healed. In two or three cases a small abscess under the conjunctiva has formed, always of very little importance ; it has discharged itself in a few days, and produced no inconvenience. A little caruncle, or large-sized granulation, sometimes springs from the conjunctiva, near the inner canthus ; this may be snipped off if of large size, or its growth subdued by the application of sulphate of copper.

The restoration of the perfection of vision is one of the greatest recommendations of this beautiful little operation, and this effect has been most striking in several instances. In one very complete contraction of the internal rectus the eye seemed to have been perfectly disused, and incapable of estimating the distance of objects. This patient, when he shut the perfect eye, presented many of the phenomena of a person restored to sight by the operation for congenital cataract; and it was most interesting to remark the daily improvement in his sight. As the two eyes begin to correspond, both in acuteness of vision as well as uniform motion ; some diplopia is occasionally complained of.

The first operations which were performed by Mr. Liston, took place in the early part of May. I have had an opportunity of examining lately some of these cases, and I find that the eyes remain perfectly straight; there appears no reason, therefore, to expect that the other cases will not succeed ; and this enables me to say, that out of seventy-four cases one only has been unsuccessful, and this in the person of the young boy above alluded to.—*Lancet.*

PRACTICAL REMARKS ON THE USE OF IODINE LOCALLY APPLIED, ETC.

BY J. DAVIES,
Surgeon to the General Infirmary at Hertford.

After some remarks on local therapeutics, and on the therapeutic properties of iodine, Mr. Davies gives an account of the benefit derived from its external application in erysipelas ; phlegmon ; extensive sloughing of the cellular membrane; acute inflammation of the joints ; inflammation of the breast; gout ; chronic enlargement of the joints ; inflammation of the absorbents ; carbuncle ; lupus, or noli me tangere ; malignant ulcers of the tongue and tonsils ; scrofulous swelling of the glands ; whitlow ; chilblains ; lacerated, contused, and punctured wounds ; burns and scalds ; and ulcers.

Mr. Davies uses iodine externally in two different forms ; namely, a tincture made with forty grains of iodine and an ounce of rectified spirit ; and a solution of thirty-two grains of the hydriodate of potass in an ounce of distilled water, with the addition of eight grains of iodine. The tincture is diluted with spirit, when necessary ; and with the "ioduretted solution a lotion is made by the addition of distilled or common water, varying in strength according to circumstances, from one-eighth to one-fourth of the former." That is to say, the lotion may be one-eighth or one-fourth of the strength of the solution. These preparations of iodine are not the same as those of the London Pharmacopœia. The following extract shows the method of using the tincture ;

"Suppose we are called to a case of severe inflammation of the leg, in a stout, robust person: the limb is intensely red, hot, swollen, and glossy, all the way from the toes to above the knee: it is double the size of the corresponding one, and so painful as to disturb the general health, as to cause quickness of the pulse, white tongue, thirst, &c. We immediately *paint* the whole limb with the tincture of its full strength, extending its application from the toes to several inches above the upper margin of the inflammation: the remedy is applied with a camel's hair brush. This is all the local application requisite for the present. The limb is directed to be kept in a horizontal posture, and either to be very lightly covered over with a sheet—which must not come in contact with the skin—or else to be left exposed, according to the temperature of the apartment. In less than twenty-four hours—in less than twelve hours—the swelling will be found to have diminished. At the end of twenty-four hours the skin will be seen much corrugated, showing its contents to have become less in bulk, and the circumference of the limb will measure some inches less than the day before. The diminution will be found to have taken place more particularly towards the upper part of the swelling. We now repeat the application of the tincture, of the same strength. In another twenty-four hours the reduction of the swelling will have gone on rapidly, and only a remnant of the disease will be found to exist. The strength of the tincture must be now reduced to one-half, and its application continued daily, or less often, according to circumstances, until the limb is well. After the second or third applications of the tincture, we sometimes brush the limb over with spirit of wine alone, so as merely to dissolve the iodine which remains on the surface of the skin."—Pp. 17, 18.

If the tincture is applied too frequently or too strong, "It may cause the skin to inflame or the cuticle to blister, but that is the only inconvenience which has ever occurred from its use."—P. 62.

"If any itching, or a slight blush of the skin, should follow the repeated applications of the remedy, especially on the lower extremities, it should be discontinued, otherwise the cuticle will rise into small watery pimples, and will tease the patient for a few days; but this effect is produced by it on the *healthy* skin only—when applied, for instance, to the skin covering a diseased joint, or when any induration or swelling is situated under the skin—for we have never found it to blister the cuticle and to cause exudation of lymph from the surface of an *inflamed* skin."—Pp. 18, 19.

Mr. Davies supposes the iodine to act by counteracting the enlarged capillaries of the inflamed part.

In the last page of his essay he gives another list of diseases in which the tincture has proved beneficial; and we must add that he has had eleven years experience of the remedy; so that if our author has not been led astray by the zeal incident to a discoverer, he has made a most estimable addition to the surgical pharmacopœia.—*Nous verrons.*—*Med. Gazette.*

TOPICAL APPLICATION OF THE TINCTURE OF IODINE.

BY RICHARD LANYON, M.D., F.A.S., &C., LOSTWITHIEL.

It cannot be denied that the improvement which clinical medicine is daily receiving, mainly depends on the habit of close investigation now so universally followed, based as it is on the fact so generally diffused, of establishing principles of practice on experimental inquiry. Matters of fact are beyond dispute, and the results of scientific attainment are landmarks for the guidance of the less experienced, inspiring confidence where there would otherwise be distrust, and becoming intrinsically more valuable from their charitable application to the relief of human suffering. The medical book-worm, that is, the man who derives his knowledge alone from the literature of our profession, is a mere theorist; one who is *au fait* at nice distinctions, but has no pretence to knowledge or facts acquired on his own account: he can lay before you the practice and conclusions of others, but attempts not to enrich the one or the other by his own clinical elucidations: not that we have a right to depreciate the making ourselves intimately acquainted with ancient professional history, or with the pathological experience of our cotemporaries, but the man who, with this information alone, attempts to eradicate the pestilential influence of disease, will find himself lamentably deficient in the most important qualification which the accomplished physician requires. Without clinical experience, it is not possible to pursue our avocations with the confidence and self-possession so necessary to insure that success, with which we endeavour to smooth the pillow of local or constitutional disease. With these prefatory remarks as my apology, I shall proceed to lay before your readers the following cases, showing the great importance of iodine as a therapeutical agent. Although this substance has for many years engrossed the attention of the medical public, a much wider sphere of action and importance appears to be attached to it, than those who introduced it to the profession, or those who subsequently tested its virtues, had the least idea of claiming. The iodine and the iodic acid in alkaline and mineral combination have been extensively and beneficially used as internal remedies, and occasionally as local applications ; but it was not until lately that the iodine was discovered to possess astonishing and extensive influence as a topical remedy. Mr. Davies has rendered essential service to the profession by the publication of his excellent essay on this subject, which should be in the possession of every practitioner ; it is free from dogma or theory, and is what it professes to be, a collection of clinical facts and observations. Having taken his "Practical Remarks" as my guide, I may, perhaps, be excused if I obtrude myself again on the readers of THE LANCET with something in the shape of an appendix to his "Treatise," confirmatory of his views, and bearing my humble testimony to the many practical illustrations which he has so strikingly adduced. Discarding arrangement I shall extract the cases from my journal in the order in which they are there placed.

CASE 1.—On the 6th of March of the present year, an old gentleman of excellent constitution, and a tee-totaler, contracted, by exposure to cold, a pain of the right cheek, attended with considerable tumefaction. He considered the disease to have arisen from a decayed tooth ; the swelling bears the character of that description of disease described by some authors as phlegmonous erysipelas. It is equally diffused (occupying the whole of the cheek) with that which characterises this distinctive form of erysipelas, but on pressure the parts are found to be unyielding, by which the complaint is more particularly distinguished from the latter disease. The whole of the cheek, and beyond the point to which the swelling had extended, was pencilled with the tincture of iodine, covering every part uniformly.

7. Swelling has abated, and the mouth can be opened with greater freedom than yesterday. Is in all respects better. The tincture to be repeated as before.

8. The tumefaction has considerably receded, and the skin is much corrugated. Let the surface be pencilled with rectified spirit.

9. The cuticle of the cheek is separating, and my patient is convalescent.

Practically interesting as this case undoubtedly is, it may, perhaps, be not altogether out of place to remark here, that my patient has been uniformly a gentleman of exceedingly temperate, nay, abstemious habits, and accustomed to considerable exercise in the open air ; he has, consequently, been blessed with unusually good health ; but the constitution, notwithstanding our utmost circumspection, must begin to show symptoms of wear and tear when the brow has become silvered with "threescore years and ten." The machinery, although not abused, must be expected to creak upon its hinges, as we approach the confines of the grave, after a protracted, although not injudicious sojourn in this nether sphere of existence. Of late, my patient, from accidental causes, such as blows, has had portions of the skin removed occasionally from his legs. Sluggish ulcers have been the consequence, which have readily healed on the application of the tincture of iodine. Lately we have applied the same remedy immediately that the parts have been denuded, and the ulcerative process has not only been interrupted, but the work of reparation has uniformly been effected in a surprisingly short space of time.

CASE 2.—March 20. James Jones, a labourer, applied on account of a very extensive erysipelatous inflammation of the right side of the face. It has very nearly closed the right eye, and is altogether a very well-marked case of the disease. It has extended to the forehead with that zig-zag outline by which it is frequently accompanied, and is advancing rapidly to the crown of the head, whilst it is steadily pursuing a downward course. The tincture was applied freely to every part and beyond the limits of the swelling.

21. The application of yesterday was made towards the evening, and within four hours the pain had considerably diminished, which insured him a good night's rest. The swelling is gradually receding. He requested to have the application repeated, which was acceded to.

22. Is so much better, that the rectified spirit was substituted for the iodine. Convalescent.

Case 3.—March 21. A young man, who is anything but abstemious, during the last week has been complaining of considerable pain, referred to the back and lower part of the right thigh, with redness, but no swelling. He had been using fomentations, and has applied hot oil and wool. To-day he has become alarmed by the parts immediately below the knee becoming affected, and my opinion was solicited. I found a blush of inflammation extending from the upper and back part of the knee-joint to about three inches below it; in breadth it was about two inches. The parts are very sensitive on the least pressure, but there is no induration or swelling. The tincture was directed to be unsparingly applied.

22. The disease is still erratic, whilst the part subjected to the influence of the iodine yesterday is very much better; the inflammation has reached the ankle, and is more particularly aggravated about the external malleolus. A thick coating of the tincture is directed to be given to the whole of the back part of the calf, including the ankle.

23. Is very much relieved, although the ankle is still implicated. The whole of the back part of the leg to be pencilled with rectified spirit.

24. Although rest in the recumbent position was strictly enjoined, he quitted his bed yesterday, and walked out, consequently, there is much more pain, and the limb is swollen. Spirit wash to be sedulously used.

25. Better, and the iodine to be used as before. The limb is now retained in a state of rest.

26. Much better. The iodine was no longer required, and the limb was shortly restored.

Case 4. March 23. A delicate young female, by exposure to cold, complains of pain, heat, and swelling of the right cheek. It has that boggy feel so characteristic of erysipelatous disease, and is migratory. The parts to have the tincture applied to them immediately.

24. Swelling considerably diminished. The iodine as before. The disease disappeared without further treatment.

Case 5.—March 26. An elderly man, who is frequently an invalid, is the subject of a severe attack of orchitis. The right testicle is considerably enlarged, and exceedingly indurated and irritable. A thick coating of the tincture to be applied over and beyond the seat of disease.

27. Pain less, and swelling abated. Fearing lest the iodine, by stimulating, might produce an aggravation of symptoms, it was thought advisable to pencil the swelling with rectified spirit.

28. Still improving. The iodine as before. Pursuing the same treatment after a few days, the severity of the attack was overcome, and the parts regained their normal condition.

Case 6.—March 28. A maiden lady, about 40 years of age, was, as she is annually, much annoyed with chilblains on her feet. Two successive nights she applied the tincture, by means of a camel's-hair pencil, with the effect of eradicating every vestige of this troublesome complaint.

Case 7.—April 6. A laundress, in the exercise of her vocation, was much exposed to cold, the consequence of which was inflammation of the face. The whole of the left cheek is exceedingly florid and swollen, and does not yield in the least to pressure, with very considerable pain. Let the tincture of iodine be applied immediately.

7. Very nearly as much swollen as yesterday, and is still very red; the skin is slightly disposed to corrugate, and the parts implicated are somewhat softer; the pain is much diminished. The same treatment as yesterday.

8. Last evening the swelling was much more considerable, but this morning it has again receded. To be pencilled with rectified spirit. From this day no further treatment was necessary; the skin shrivelled and separated, and the tissues returned to a state of health.

Case 8.—April 17. E. M., a middle-aged man, has very frequently been annoyed by boils on different parts of his person. He has been complaining for several days past of pain in the right shoulder, for which he was directed to use a liniment composed of sulphuric acid and oil, but without deriving the least benefit. On examining the joint this morning, I find it slightly swollen, but easily yielding to pressure, accompanied with a slight blush of inflammation, and very tender. Immediately in the neighbourhood is a boil, which has degenerated into an ulcer. He was directed to take a saline purgative immediately, and to have the tincture of iodine, diluted with rectified spirit, applied freely over the seat of pain and on the ulcerated surface.

18. The pain was much mitigated in four hours after the application of yesterday. To-day he complains of considerable uneasiness at about the middle of the right arm; shoulder less swollen, and much cooler; voluntary motion of the arm is altogether suspended; the ulcer is fast improving. The shoulder and parts adjacent to be treated as yesterday, and the tincture, in full strength, to be applied to the arm. By pursuing this plan for a few days the ulcer granulated and healed, and the pain and swelling subsided. Voluntary motion, however, was not restored until after the lapse of a fortnight or three weeks.

Case 9.—April 18. A robust young man, aged 28, has a large boil beginning to suppurate on the posterior and upper part of the left thigh, accompanied with much swelling and hardness. He has been poulticing and fomenting, and has taken a saline purgative. The tincture of iodine to be applied liberally over every part of and beyond the tumour, Repeat the purgative.

19. Thick pus is oozing from the boil; the pain is very much abated; the tumefaction is diminished; and he is, in all respects, more comfortable. Repeat the application. Further history would be superfluous, as my patient, after persevering a few days, was completely restored.

These are a few, and but very few of the cases which I have treated with this powerful remedy; but your Journal is not the place for elaborate detail. No correspondent has a right to occupy considerable space, or I might place before your readers many and striking instances exemplifying the diversified utility of this invaluable agent. When I had read Mr. Davies's work, I concluded that he had over-zealously claimed too much for his remedy; but, on patiently investigating its merits, I find he is fully borne out in the assertion, that iodine is "by far the most efficient topical application in our possession."—*Lancet.*

THE AMMONIATED TARTRATE OF IRON.

BY T. H. WARDLEWORTH, SURGEON.

I trust that the following suggestions on the use of that excellent preparation, the ammoniated tartrate of iron, will not be considered obtrusive. Having used that remedy for more than two years, I am enable to speak with some degree of certainty as to its therapeutical effects. It appears to have been first introduced to the notice of the profession by Mr. Aiken, who recommended it in convulsions arising from exhaustion, hæmorrhagy, inanition, &c.* I have never given it in convulsions arising from any cause, but am in the frequent habit of prescribing it in chorea, chlorosis, scrofula, &c. In chorea, after the bowels have been freely acted upon by purgatives, should the disease still continue, I have found, under the use of the ammoniated tartrate of iron, the pale, languid, and vacant appearance of the countenance, the soft and flaccid muscles, with the other concomitants of chorea, give way, and the involuntary twitchings subside. I

* Vide Copland's Dic., p. m. art. Convulsions, sec. 55.

attended a young lady, æt. 18, who laboured under all the symptoms of chorea in its most aggravated form, with occasional attacks of hysteria; menstruation scanty, of a pale colour, and occurring at irregular intervals. After her bowels had been freely moved, and a variety of other means had been tried, to no purpose, I had recourse to the ammoniated tartrate of iron. I commenced by giving her three grains, thrice a day. In one week from the time of beginning to take the preparation she was enabled to come to my house, a distance of one mile, which was more than she had walked for the last three years; she said that after she had taken three or four doses of the medicine, she felt (to use her own expression) a genial glow of warmth pervade the whole system; and that as her appetite improved, all her other symptoms began to disappear, and in one month from the time of commencing to use the remedy she was perfectly well, so continuing up to the present time, eighteen months.

In scrofula and chlorosis, the benefit that is derived from its use is truly astonishing. In chlorosis its effects are magical, for in a few days after taking it the appetite returns, the dyspnœa subsides, and, instead of panting for breath at every four or five steps, the patient is enabled to ascend the whole flight with speed and ease. The countenance, likewise, begins to show signs of returning health; the lips, cheeks, and nails assume a faint blush, which continues increasing until the patient is, in every particular, restored to perfect health. I could enumerate many cases of scrofula, chorea, chlorosis, &c., but content myself with observing that its action upon the body appears to be, first, that of a diffusible stimulant, giving impetus to the general circulation, causing vivacity of the mind, and a rapid subsidence of all distressing symptoms, creating in the patient a lively hope that health, to which she has been for some time a stranger, is about to be enjoyed. And, secondly, the production of tone and contractility in the various tissues, perhaps, at the same time, supplying that deficiency of iron in the circulatory mass, which generally exists in chlorosis. My formula is the following:—

Ammoniated Tartrate of Iron, ʒi.
Water, ℥viij.

Take half an ounce three times a day.—*Lancet.*

MONÆSIA.

At the last meeting of the Royal Medico-Botanical Society, Dr. Sigmond laid upon the table several pharmaceutical preparations, which had been sent for the examination of the members by M. Derosne, who had obtained them from a new drug, recently imported into France from South America, under the name of monæsia. Dr. Sigmond observed, that a specimen of the extract had been some time since submitted to his inspection, by a gentleman who had received it from Dublin, and he must confess that the opinion he had then formed of it was, that it was a compound substance, and not the product of any one vegetable. This idea was founded upon the external appearance, and upon the taste of the drug, not upon any analysis, or minute examination of its structure, for the quantity shown to him was very small. He was persuaded, however, that from the quarter from which this new medicine emanated, there could be no attempt to deceive the medical profession; for it was to an individual whose family were well know as pharmaceutical inquirers, that they were indebted for the present discovery. From the nephew of Derosne, whose labours upon opium, and whose analysis had led the way to our present knowledge of morphia and narcotine, we could only expect truth. The four preparations now placed before them were an aqueous extract, a hydro-alcoholic tincture, an ointment containing an eighth of its weight of extract, and an acrid principle which is obtained by analysis. But Dr. Sigmond could not but express his regret that no specimen of the bark, from which monæsia is supposed to be obtained, was placed before them; M. Derosne had, however, promised that at a very early period he would supply this deficiency; and as that gentleman was present at the meeting he would, although unable to address them in English, give them every satisfactory information upon this point. It would appear from a monograph now placed before the Society, that a French merchant, residing in South America, having witnessed the good effects of a substance employed by the natives in cases of dysentery and of diarrhœa, sent a quantity of the drug to Paris, and it was placed in the hand of M. Derosne, who found it to be an astringent endowed with a sweet taste. About a year and a half after this, he obtained some specimens of the bark of a tree from which he procured an extract, presenting all the characters of the extract previously sent to him, and likewise identical in its composition.

M. Derosne had stated that the pieces of bark were of a deep red colour, of a smooth fracture, and that they were evidently the produce of a tree of considerable dimension, and probably belonging to the mimosæ. Chemical analysis had shown the bark to consist of chlorophylle, of vegetable wax, of a fatty crystallisable matter, of glycyrrhizine, of an acrid matter somewhat bitter, of a little tannin, of a natural acid not yet examined, of phosphates of lime and magnesia, of a colouring matter analogous to that of cinchona, and, lastly, of salts of lime in combination with the natural acid. In France the preparations had been carefully tried by numerous physicians, amongst them Baron, Lisfranc, Manec, Laurand, and Payen, and they were led to form a high opinion of their effects, more especially in various affections of the digestive organs; it was serviceable in bronchitis, in phthisis, in hæmoptysis, and as an astringent generally. Its external application, in various affections of the skin, had been attended with success. It would appear, that although exerting considerable influence upon the system, it had never produced any bad symptom. The doses were, of the extract, given in the form of a pill, from six to twenty grains; as much as forty-five grains had been given in a day; of the tincture, from a drachm to a drachm and a half, in six ounces of water. Dr. Sigmond referred to the experiments that had been made in Dublin, from which it appeared that much benefit had been derived from it as an astringent. M. Derosne would gladly furnish any member with a supply, who would make public the result of his experiments. He concluded by again expressing his hope, that the bark would be furnished to them at an early period; for, without that was laid before them, he felt persuaded that the Society could not with propriety investigate the subject further, although its members would gladly try the effects of any medicine which brought with it such recommendations from their medical brethren in France.—*Ibid.*

PLACENTA PRÆVIA.

From a long and elaborate article on M. Gendrin's "Philosophical Treatise on Medicine,"* in the *British and Foreign Medical Review*, we extract the following on the subject of Placenta Prævia:

"M. Gendrin now proceeds to consider how hemorrhage takes place in placenta prævia (p. 267); and the speculations are to us new and curious. It is usually thought that in these cases the necessary expansion of the cervix uteri, in the latter months of gestation, tears away the connexions between the placenta and womb, and thus freeing the uterine sinuses, gives rise to "unavoidable" hemorrhage. M. Gendrin, however, takes just the opposite view, and asserts that the flooding is owing to ruptures, not of the uterine vessels from the edges of the placenta, but of the central parts of this last organ only. According to him, the circle sketched out on the womb by the reflection of the decidua vera into decidua reflexa, is the limit of the edges of the placenta; that this organ never overslips this limit; that the expansion of the womb increases the capacity of this circle without altering the original fixture of the circumference: in a word, that the placenta does not grow by extending its edges, but by increasing its centre in the increased space formed by the expansion of the fundus uteri. will fill the increased uterine space, no hemorrhage will ensue; and this happens

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* Traite Philosophique de Medicine Pratique. Par A. N. Gendrin, D. M., Medecin de 'Hopital de la Pitie. Tomes I-II.—Paris, 1838-39. 8vo., pp. 703, 694.

Now, if the placenta be fixed, from first to last, to the cervix uteri, as long as the cervix dilates and is accompanied by just as much placental development as during the first half of gestation, when, though the cervix uteri begins very early to expand, still no bleeding occurs. In the latter half of gestation, however, the neck of the uterus does not expand so rapidly as the placenta grows: the result is "that the placentary adhesions are necessarily destroyed from the centre towards the circumference of the cervix. The mucous membrane of this last part is separated from the placenta by a mere layer of mucus; then it is, that there are transudations from the placental vessels. If the placenta be attached by its edges to the cervix uteri, the separation of the sides of the neck breaks up the placental cotyledons; as much by the distension they suffer, as by the endeavour to become engaged in the cavity of the cervix." (p. 269.)

As to the mode of action remedial of the hemorrhage incidental to abnormal implantation of the placenta, the following important observations of M. Gendrin must be stated in his own words:

"Hemorrhage always ceases as soon as expulsive labour-pains commence, in cases where a portion of the placenta only is fixed over the os uteri. (Smellie, t. ii. p. 247 and 356.) The same result takes place where the centre of the placenta is over the os, as soon as the expulsive uterine efforts have ruptured the amnion. Flooding only recurs if there be inertia uteri. We are astonished that this remark has escaped the greater number of accoucheurs. If a gush of blood succeeds each uterine contraction, it is only in the first period of labour, and until the uterine contractions have become thoroughly established, in; where the placenta is attached only by a segment to the os. When the attachment is centre to centre, then the flux continues up to the bursting of the amnion. This has been the course of matters in every case which we have seen. Hence we always hail the advent of true labour in placenta cases. We would thence also further deduce this point of practice, viz.—the necessity of producing labour artificially whenever the flooding is in quantity or by frequent recurrence likely to injure mother and child." (p. 348.)

This recommendation is precisely what is effected by all accoucheurs, when in these terrible examples of flooding they turn the child; but this, the usual course, is not the one which M. Gendrin advises. He resorts to a method which he has tested by actual experience as capable of saving both mother and child. The plan is, to evacuate the liquor amnii by passing the requisite instrument through the placenta and so puncturing the membranes. M. Gendrin has resorted twice to this operation, and has been twice successful: Let us abstract these instances.

"CASE I. A fair young woman had a gush of blood at the sixth month, and three more during the seventh; for each of which she was bled by her attendant and thus reduced by the double loss to a state of debility so extreme as to make the upright posture in bed a cause of fainting. M. Gendrin being consulted, declared the case to be one of anormal implantation of the placenta, and recommended the puncturing the membranes, declaring that another gush of blood would kill her. The original attendant deeming the case one of mere congestion of the os uteri, resolved to plug the vagina, but while he was preparing the 'tampon' a fresh gush took place which at once induced M. Gendrin to introduce his hand into the cavity of the pelvis. He found the cervix uteri rigid, and permitting him only to pass the tip of his finger, high enough however to allow him to recognise the placenta. His original position occurred to him of evacuating the waters by puncturing through the placenta. A female catheter—"une algalie ordinaire de femme"—was the instrument used, which, with the greatest facility penetrated the amnion through the intervening parts, and the liquor amnii immediately escaped. The hemorrhage *ceased instantly;* labour-pains did not take place till three hours after the operation; and in four more a child was born alive, which protruded the placenta before a part of its head and face. The uterus contracted well; a slight hemorrhage only occurred, which in the debile state of the woman threw her into a fainting fit which lasted fifteen or twenty minutes. It was two months before the patient could leave her bed. Ultimately both mother and child did well. The placenta when examined was found perforated about two inches from its margin: blood was incorporated with its tissue in a space extending over two or three inches of its surface, in the centre of which the perforation existed.

"CASE II. In this case, the puncture was made in the seventh month of gestation. The 'algalie' penetrated the placenta obliquely, entering about two inches from its margin and coming out about five lines from the edge of the fœtal surface. The infant died immediately after birth, but the mother not having suffered much previous to labour, experienced none of those accidents which occurred in the instances formerly related."

On these two examples M. Gendrin would base his recommendation to puncture, which, if not delayed too long, will, he says, be successful. Where it is not, and the uterus remains inert (the inertia he attributes to delay), the practitioner may still turn the child. This method, he adds, has the advantage over the *accouchement forcé*, that it is applicable in any case, while the latter is, as we know, not always practicable before life ebbs away. We leave the further consideration of this method to our readers. That it is a valuable hint communicated in good faith and on high authority there can be little doubt.

That every aid to the practitioner in these terrible instances is a blessing, we acknowledge most thankfully. There is enough, both in the nature of the case itself, and in the source of the remedy, to make us carefully note the reasonings and facts, and to prepare us to attempt the same in similar circumstances. It is, however, untried, at least comparatively so, when opposed to the usual practice of immediate delivery by the hand. In the majority of cases, the mother is easily and instantly saved by this operation, and not unfrequently the child. Where this is practicable it should be done. The delay attending all other modes of proceeding, the dreadful anxiety of waiting for effects which we cannot calculate, the watching those points of time laden with the fiat of life or death, are persuasions to immediate action. There are occasions, however, in which the flooding is great and yet the introduction of the hand impossible; and it is in these in which we think M. Gendrin's plan should be tried. We call it M. Gendrin's plan, because it is fairly and substantively put out as a determinate course of action in certain cases: still, neither the suggestion nor the practice is his. Mr. Ingleby of Birmingham has given us a summary of this practice, at p. 157 of his book, from which it appears that Dr. F. Ramsbotham recommends rupturing the membranes in partial implantation of the placenta over the os, that Dr. Cusack performed this operation in similar cases six times; and Dr. Blundell, also, has resorted to and advises it. M. Gendrin is distinguished from these by a more distinct and a more extended recommendation of the operation, whatever may be the position of the placenta as to the os uteri.

ON COMPRESSION OF THE ABDOMINAL AORTA IN CASES OF VIOLENT FLOODING AFTER DELIVERY.

BY DR. EHRENREICH.*

A WOMAN after having been in labour for thirty-four hours, and the liquor amnii discharged for thirty, was then, on account of narrowness of the pelvis and the absence of pains, delivered with the forceps of a healthy living girl, her first child. The separation of the placenta soon followed; not a particle of it was left behind, and the uterus contracted regularly. A very moderate quantity of blood had been lost during and immediately after delivery. Two hours after I was hastily summoned, and found the woman in a fainting state, the countenance collapsed, and of death-like paleness; the pulse scarcely perceptible; the hands and feet cold; the voice almost gone. On examination I ascertained that the uterus was relaxed, and that the woman, so to speak, floated in blood.

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* British and Foreign Med. Rev., July.

As the ordinary means for stopping hemorrhage were insufficient in this case, I determined to try compression of the aorta, and accordingly introduced the entire right hand into the uterus, and with the four fingers gathered into a conical shape made forcible pressure on the vessel immediately above its bifurcation. The bleeding ceased completely. At the same time I stimulated the walls of the uterus by moving my thumb, and rubbed the corresponding part of the abdomen with the left hand. During the continuance of the compression analeptics with tincture of opium and cinnamon were administered, and as soon as the patient was somewhat restored, secale cornutum in fifteen grain doses every half hour. Cold poultices were also applied to the abdomen and subsequently sprinkled with æther. All this, however, produced no contraction of the uterus, and the moment I ceased to press on the aorta, the bleeding burst out afresh. After having kept up the compression for nearly half an hour, my hand and arm were completely disabled, and I was unable to press with sufficient force. A change of hands would have caused too great loss of blood; I therefore determined to lay a heavy sand-bag, as recommended by Kluge and Betschler, on the part of the abdomen corresponding to the uterus—a plan of which I had previously ascertained the utility. This was done, while I gradually withdrew my hand; the moment the bag was well placed all the bleeding ceased, which had returned after the removal of my hand. In two hours after, the skin had recovered its warmth, and every bad symptom disappeared: the bag was then taken away, having been gradually lightened by removal of its contents. Six weeks after the patient was perfectly well with the exception of weakness; she suckled her infant herself.

[External compression with the hand on the abdomen, recommended by others, and the only way of acting on the aorta when an irregularly contracted state of the uterus may prevent introduction of the hand, was first tried in this case; but from the thickness of the abdominal parietes it had no control over the bleeding.]—*Medicinische Zeitung.* No. xxxvii. 1839.

POST MORTEM EXAMINATION OF NAPOLEON BONAPARTE.

Although the profession had already learned the nature of the organic changes which brought about the death of Napoleon, the following account by an eye-witness will not be without interest. It is contained in a work recently published in Quebec.*

"Death had marvellously improved the appearance of Napoleon; and every one exclaimed when the face was exposed, 'How very beautiful!'—for all present acknowledged they had never seen a finer or more regular and placid countenance. The beauty of the delicate Italian features was of the highest kind; whilst the exquisite serenity of their expression was in the most striking contrast with the recollection of his great actions, impetuous character, and turbulent life.

"As during his eventful career there was much of the mysterious and inscrutable about him, so, even after death, Bonaparte's inanimate remains continued a puzzle and a mystery; for notwithstanding his great sufferings, and the usual emaciating effects of the malady that destroyed him, the body was found enormously fat. The frame was as unsusceptible of material disintegration as the spirit had been indomitable. Over the sternum, or breast-bone, which is generally only thinly covered, there was a coat of fat an inch and a half thick; and on the abdomen two inches—whilst the omentum, kidneys and heart, were loaded with fat. The last organ was remarkably small and the muscle flabby, in contradiction to our ideal associations, and in proof of the seeming paradox, that it is possible to be a very great man with a very little heart.

"Much anxiety was felt at the time to ascertain the disease of which Bonaparte died. Mr. O'Meara had represented the liver as the faulty organ, and this had been echoed by Antommarchi; though, as was said before, the illustrious sufferer himself, with better judgment, referred the mischief to the stomach as its seat and source: and he was perfectly right, as the event proved. This organ was found most extensively disorganized: in fact, it was ulcerated all over like a honeycomb. The focus of the disease was exactly the spot pointed out by Napoleon—the pylorus, or lower end where the intestines begin. At this place I put my finger into a hole made by an ulcer that had eaten through the stomach, but which was stopped by a slight adhesion to the adjacent liver. After all, the liver was found free from disease, and every organ sound except the stomach.

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* Trifles from my Portfolio; or Recollections of Scenes and Small Adventures during Twenty-nine Years' Military Service in the Peninsular War and Invasion of France, the East Indies, Campaign in Nepaul, St. Helena, during the Detention and until the Death of Napoleon, and Upper and Lower Canada. By a Staff Surgeon. In two vols. Neilson, Quebec.

"Several peculiarities were noticed about the body. He appeared at some time to have had an issue opened in the arm, and there was a slight mark like a wound in the leg, but which might have been caused by a suppurating boil. The chest was not ample, and there was something of feminine delicacy in the roundness of the arms and smallness of the hands and feet.

"The head was large in proportion to the body; with a fine, massy, capacious forehead. In other respects there were no remarkable developments for the gratification of the phrenologists.

"The diseased state of the stomach was palpably and demonstrably the cause of death; and how Napoleon could have existed for any time with such an organ was wonderful, for there was not an inch of it sound."

JAUNDICE SYMPTOMATIC UPON CEREBRAL IRRITATION.

To the Editor of the Select Medical Library:

DEAR SIR—Should you deem the following case worthy of a place in your "Library," you are at liberty to publish it. Yours,

Q. GIBBON, M.D.

Salem, September 1st, 1840.

THE subject of this case, a glass-blower by profession, and aged 25 years, became jaundiced in May, 1836. His whole skin was of a deep yellow; in some places so dark as to present a dingy or brown appearance; the eyes of a bright yellow—the skin alternately dry and moist—temperature varying but little from the natural standard—pulse little if at all affected. The patient was soporose, sleeping almost constantly. When roused, complained of extreme lassitude, fulness and tenderness in the hypochondrium; depraved taste, thirst, and obstinate constipation; tongue moist, but encrusted with a thick yellow coat, &c. When I first saw him the patient had been labouring under his disease for several weeks. Previous to my seeing him, he had been under the care of another practitioner, who had prescribed the usual alterative remedies recommended in jaundice, but without any good result; and from whom I learned that about four weeks before, while in other respects in good health, he had been seized with frequent fits of drowsiness, which increased upon him to such a degree that at length he felt irresistibly inclined to sleep when not in motion or under artificial excitement. While thus affected the symptoms of jaundice appeared, and gradually attained the height which I have described.

Treatment.—Bleeding was attempted, but scarcely had the blood began to flow when the pulse sank and syncope came on. Blood drawn dark and grumous with a yellow serum. The bleeding was followed by a brisk mercurial purgative, after the operation of which a blister was applied to the hypochondrium, and the patient put upon the blue pill and daily laxatives. The tenderness and fulness in the right side subsided in a few days under this treatment, but without any abatement of the other symptoms. The thirst, yellow skin, encrusted tongue, and soporose symptoms, were undiminished. The patient was now cupped and blistered upon the nape of the neck, and the mercury given with a view to its constitutional effects. Gentle ptyalism was induced and persevered in for several weeks, assisted by the nitro-muriatic acid taken internally, and in the form of the foot-bath. At the end of a month from the commencement of this treatment the disease continued unbroken. The patient, from being drowsy and stupid, became fretful and peevish, with a gloomy and suspicious expression; betrayed great anxiety as to the result of his case, and passed almost sleepless nights. His strength declined so rapidly that the vegetable bitters were given freely, but without benefit.

A fatal termination began to be anticipated, when one morning he was seized with an epistaxis; and before the hemorrhage could be arrested he lost a pint or more of blood. Upon the next day he bled freely from the gums. Notwithstanding his previous debility and the exhaustion consequent to the bleedings, the patient was evidently better. The excitement of the brain had subsided, and with it all appearance of obstinacy in the disease, for from that time the jaundice yielded to the plan of treatment previously adopted.

Remarks.—I am induced to view the above case as an example of that mysterious but intimate sympathy which connects the brain and liver, and which is most strikingly displayed in the frequency with which injuries of the head give rise to hepatic abscess. The influence of the cerebral symptoms in prolonging the disease, most probably in causing it, and the marked change which their removal wrought in its character, are especially worthy of notice. Though the case presented none of the more prominent symptoms of cerebral disorder, there evidently existed a close connection between those that were witnessed and the true character of the jaundice. Moral causes have been known to give rise to temporary jaundice. Congestion and sub-acute irritation of the brain, as are exemplified in the above instance, may produce a similar result; and more serious lesions of this organ, acting with greater force upon the liver, may give rise to hepatic inflammation and abscess. A knowledge of these facts will show the importance of close attention to every evidence of cerebral disorder, however slight, in those obstinate cases of jaundice which so often baffle the best regulated treatment. What would have been the effect of a repetition of the cupping in the above case I am not prepared to say; but am induced to believe that it would have materially hastened that favourable condition of the brain which was afterwards produced by the hemorrhage.

BIBLIOGRAPHY.

A Treatise on the Physiological and Moral Management of Infancy. By Andrew Combe, M.D., Fellow of the Royal College of Physicians of Edinburgh, Physician Extraordinary in Scotland to the Queen, and Consulting Physician to the King and Queen of the Belgians. With Notes and a Supplementary Chapter. By John Bell, M.D., Lecturer on the Institutes of Medicine and Medical Jurisprudence, &c., &c. Second Edition. Philadelphia: Carey & Hart. 1840. Pp. 307. 12mo.

Our delay in noticing this work, our readers will readily believe, was not owing to any want of regard for the author, and still less for the editor; nor to any feeling of indifference for its success with the reading public. The appearance of a second edition within a period of three months since the publication of the first, is good *prima facie* evidence of the manner in which Dr. Combe's new work has been received on this side of the Atlantic. Journalists and others in Great Britain have spoken strongly in its favour there; and the general opinion, in which, if we are not misinformed, the author himself coincides, is, that it is the best work he has written. Dr. Locock, lately appointed Accoucheur to the Queen, wrote to Dr. Combe, with whom he had no personal acquaintance, in the strongest terms of approbation, and added that he had recommended it to a dear friend of his own about to become a mother, as deserving her daily study next to her Bible.

The additions by the American editor in the form of foot notes and a supplementary chapter, are mainly on those points of hygiene, which require amplification on the text, owing to the peculiarities of our climate, and the consequently increased tendency to various infantile diseases.

Bacchus: An Essay on the Nature, Causes, Effects, and Cure of Intemperance. By Philip Barnes Grindrod. First American from the Third English Edition. Edited by Charles A. Lee, M.D. New York: J. & H. G. Langley, 57 Chatham Street. 1840. Pp. 512.

Of the twenty Essays which were forwarded for inspection by the respective authors as candidates for the prize offered by the New British and Foreign Temperance Society, the one by Mr. Grindrod was preferred by the Adjudicators, the Rev. Theodore Drury, M.A.; Rev. J. H. Hinton, M.A.; and J. E. Howard, Esq. To all active members of Temperance Societies who, convinced themselves, are intent on convincing others both of the horrors of intemperance and of the means of removing them from our land, to parents who desire early to inculcate sound doctrines and pertinent knowledge on the subject in the minds of their children, to the generous and intelligent youth whose opinions are not yet formed, and who are desirous of the right, but are in danger of being led into the wrong by evil example and plausible sophistries, to the doubting drunkard, and to the yet reasoning tippler who is unconscious of his danger, this book is full of instruction, both as a warning and a guide. The reader will find not only the literature of the subject, as in the chapters on the *History of Intemperance* and *on the History* of the *Temperance* of the *Hebrews*, and the *Temperance of the Primitive Christians;* of *Intoxicating Liquors*, *the Nature and Combinations of Alcohol;* but also the philosophy of its causes, both moral and physical, and its ethics, or the consideration of *Intemperance in a legal point of view, and in the relation it bears to the Civil Rights of Society.* The practical lessons, in the chapters on the *Diseases which arise from the use of Intoxicating Liquors;* the *Effects of Alcohol on the Brain and Nervous System*, *and the Efficacy and Safety of Total Abstinence* are valuable.

The Notes and Appendix by the American editor, Dr. Lee, are pertinent to the subject, and add to the value of the original work, which ought to find a place in every library, whether this be of a thousand elegantly bound tomes, or of half a dozen of dog's-eared and thumbed volumes in boards. The subject is confessedly an important one: it interests every member of the community either as regards him or her personally, or by reflexion in the conduct of a near and dear relative or friend. There is one class of persons to whom the work of Mr. Grindrod would be particularly useful—we refer now to the members of our State and National Legislatures, and particularly if they were to read it on the last week of their sessions. It is an odd commentary on the boasted intelligence of the nineteenth century, and the shrewdness and practical mind of the American people, that they confide every now and then, we dare not say how often or to how many, the most important interests of domestic and foreign policy to men whose intemperate habits would make them fit candidates for the pillory, if they were to be punished for the wrong which they do themselves and others by their intemperance; or should at least consign them to a lunatic asylum if their conduct were measured by even the most accommodating standard of common sense and common feeling. But it is of less moment with our patriotic democracy, of all shades and designating prefixes, to inquire whether a man is in his senses half his time, than to ascertain whether he has done his party service, and is true to its dogmas and ready for its dirty work.

If the two great parties into which the country is now divided were half so zealous in exposing the evils, physical and moral, the personal and political degradation, and the waste of money from intemperance, as they are in pointing out the alleged heresies of opinion and errors in government, which they attribute the one to the other, the country would gain immeasurably in all the points which contribute to its prosperity, its happiness, and its true greatness.

PENNSYLVANIA HOSPITAL FOR THE INSANE.—The managers of the Pennsylvania Hospital, from the funds of which an extensive building for the reception and accommodation of the insane has been erected in Blockley township, have elected Doctor T. S. Kirkbride, of this city, physician to the new institution. This gentleman is well adapted, by the amenity of his manners, well regulated intellect, and habits of study, and some experience acquired in the city hospital as well as in the asylum at Frankford, to begin his new and arduous duties with credit to himself and justice to the patients who will be placed under his charge. We know of no medical office which ought so entirely to gratify a conscientiously ambitious mind as that to which Dr. Kirkbride has just been elected.

DR. PAYNE is, we learn, preparing a reply, in a pamphlet, to all the strictures of "H. T. B.," which have lately appeared in the *Boston Medical and Surgical Journal,* in relation to the Essay on the "Principal Writings of M. Louis," contained in Dr. Payne's *Medical and Physiological Commentaries.*

SELECT MEDICAL LIBRARY AND ECLECTIC JOURNAL OF MEDICINE.—NEW ARRANGEMENT.

OUR readers will have learned from a slip prefixed to the present number of this work, that it will not appear again before the month of January next. The convenience and business propriety of a periodical beginning with the new year are especially obvious to those who have chosen another epoch, and have had experience of the frequent misconceptions in consequence on the part of subscribers.

The period which will elapse from this time until the month of January next, will give the subscribers to the *Select Medical Library and Eclectic Journal of Medicine* an opportunity of manifesting their desire to have the work continued with renewed alacrity and vigour. The only effectual testimony of such desire will be the payment of existing arrears, and the consequent removal of a load from the publishers, which, in common justice, ought never to be imposed on them. The cause of a new and one of the most important branches of medical literature is in the hands of our subscribers. It is in the power of each one by his individual action (*the payment of his subscription dues*) to contribute not a little either to sustain or destroy this cause. By the latter alternative he inflicts not only positive injury on himself but on the profession at large. With honorable minds it is sufficient to direct attention to the emergency. They will at once know the course expected from them and knowing they will *at once* act.

END OF VOL. IV.

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